ELECTRICAL TRADE CATALOGS

1930

DISTRIBUTED ANNUALLY BY

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Electrical Trade Catalogs

1930 EDITION

A collection of catalogs of electrical supplies, wiring devices and appliances, raw materials, fabricated and semi-fabricated parts—edited, indexed, and distributed to a selected list of electrical manufacturers, jobbers, contractors, contractor-dealers and merchandising managers of Electric Light and Power Companies by

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Your "Looking-Up-Place"

Make Electrical Trade Catalogs *your* "Looking-Up-Place" for answers to the "hundred and one" questions that come up in your day's work—questions on "Who makes it?"—"How is it made?"—"What styles?"—"What sizes and prices?"—and "Where can I buy it?"

It will pay you to immediately and carefully thumb through this edition of Electrical Trade Catalogs to familiarize yourself with the many hundreds of items of information the volume contains that will be helpful to you in your estimating or designing work—in your order-placing or order-getting.

You will appreciate the thorough way in which many manufacturers have gone into the description of products—the work the editors have done this year in covering the names of the manufacturers of practically all the items that you are constantly in the market for—and the way in which they have helped manufacturers incorporate in their pages the kind of data which you have always been so anxious to get—real helpful catalog data instead of merely a repetition of information with which you are already familiar.

Buyers Want "Complete Details"

We have told manufacturers that in the main you know who makes things (and even if you may not be familiar with all the companies who make a product, the index which our editors have prepared will give you that information)—but what you want to know is the types of products the manufacturers make and how their facilities, both from a production and distribution standpoint, help you in carrying out projects in which you are interested. The manufacturers to whom we have carried this message have responded enthusiastically and have co-operated wholeheartedly in giving you this kind of informa-

tion—with the very natural result that the Electrical Trade Catalogs which you have before you is crammed full of details which can be of tremendous assistance to you throughout the year.

So go through this issue right now—familiarize yourself with what's in it from cover to cover—and then use it daily to help you solve the many problems that are continually confronting you.

And while doing so—remember that Electrical Trade Catalogs, because of its definite policy to secure real data for its users, is rapidly becoming regarded as the one definite "Looking-Up-Place" for data needed for designers and buyers in the electrical trade—for manufacturers of electrical products—for distributors of electrical products—for electrical contractors and contractor-dealers.

Tell Us—and We'll Tell the Manufacturers

You will note that each edition of Electrical Trade Catalogs contains more helpful information than the previous volume. As you use it day in and day out, many suggestions will naturally come to you on what other data you are anxious to have manufacturers incorporate and what other information you would like to see included. Don't hesitate, therefore, to write us "whenever the spirit moves you" as to what additions you would like to have made or what other manufacturers you want to see represented. For, after all, this is *your* "Looking-Up-Place" and our job is to make it as valuable as we can for you. We are always ready and willing to pass along to the manufacturers, who are building Electrical Trade Catalogs, any suggestions you may make for its betterment.

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UNITED STATES STEEL PRODUCTS COMPANY

SAN FRANCISCO LOS ANGELES PORTLAND SEATTLE HONOLULU

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The Extensive Facilities of the American Steel & Wire Company

Reinforcing our extensive experience and factory equipment, there are well equipped chemical, physical and electrical laboratories, wherein the problems incident to the solution of every difficulty encountered are handled by thoroughly reliable experts and up-to-date methods. All steel and copper used are rolled and drawn in our mills and under our supervision throughout every operation.

All raw materials are tested and inspected before being used, the manufacturing processes are constantly checked, and finally the finished material is subjected to an exhaustive series of tests that determine beyond question whether or not it is of proper quality.

With such facilities we are enabled to manufacture electrical conductors of all kinds to the severest specifications, and to give the users of our products a standard of quality that is unexcelled.

Bare Copper Wire and Cable

We manufacture bare copper wires and cables for electrical or other purposes, in any required size, either plain or tinned, and either hard drawn, medium hard or annealed.

DIMENSIONS AND WEIGHTS OF BARE SOLID COPPER WIRE

American Wire gauge (B. & S.)	Diam., mils	Circular mils, (d^2) 1 mil, d = .001 in.	Sq. in. (d x .7854)	Weight, lb. Per 1000 ft.	Weight, lb. Per mile	American Wire gauge (B. & S.)	Diam., mils	Circular mils, (d^2) 1 mil, d = .001 in.	Sq. in. (d x .7854)	Weight, lb. Per 1000 ft.	Weight, lb. Per mile
0000	460.0	211600.0	0.166190	640.0	3378.0	19	35.9	1288.8	0.0010122	3.9	20.6
000	409.6	167772.0	0.131770	507.0	2678.0	20	32.0	1024.0	0.00080425	3.1	16.4
00	364.8	133079.0	0.104520	402.0	2124.0	21	28.5	812.25	0.00063794	2.46	12.97
0	325.0	105625.0	0.082958	319.0	1685.0	22	25.3	640.09	0.00050273	1.94	10.22
1	389.3	83694.0	0.065733	253.0	1336.0	23	22.6	510.76	0.00040115	1.54	8.15
2	257.6	66358.0	0.052117	201.0	1059.0	24	20.1	404.01	0.00031731	1.22	6.45
3	229.4	52624.0	0.041331	159.0	840.0	25	17.9	320.41	0.00025165	0.969	5.12
4	204.3	41738.0	0.032781	126.0	666.0	26	15.9	252.81	0.00019856	0.764	4.04
5	181.9	33088.0	0.025987	100.0	528.0	27	14.2	201.64	0.00015637	0.610	3.22
6	162.0	26244.0	0.020612	79.0	419.0	28	12.6	158.76	0.00012469	0.480	2.53
7	144.3	20822.0	0.016364	63.0	332.0	29	11.3	127.69	0.00010029	0.386	2.04
8	128.5	16512.0	0.012969	50.0	264.0	30	10.0	100.0	0.000078540	0.302	1.596
9	114.4	13087.0	0.010279	39.6	209.0	31	8.93	79.74	0.000062631	0.241	1.273
10	101.9	10384.0	0.0081553	31.4	166.0	32	7.95	63.20	0.000049639	0.191	1.009
11	90.7	8226.5	0.0064611	24.9	131.0	33	7.08	50.13	0.000039369	0.152	0.800
12	80.8	6528.6	0.0051276	19.7	104.0	34	6.30	39.68	0.000031173	0.120	0.634
13	72.0	5184.0	0.0040715	15.7	82.8	35	5.61	31.47	0.000024718	0.095	0.502
14	64.1	4108.8	0.0032271	12.4	65.6	36	5.00	25.00	0.000019635	0.0756	0.399
15	57.1	3260.4	0.0025607	9.8	52.1	37	4.45	19.80	0.000015553	0.0599	0.316
16	50.8	2580.6	0.0020268	7.8	41.2	38	3.96	15.68	0.000012316	0.0474	0.250
17	45.3	2052.1	0.0016117	6.2	32.8	39	3.53	12.46	0.0000097868	0.0377	0.199
18	40.3	1624.1	0.0012756	4.9	25.9	40	3.14	9.86	0.0000077437	0.0298	0.157

Bare Copper Cables

Bare copper cables, either concentric or rope laid strand, are made in all degrees of flexibility—hard, medium drawn or annealed—in the sizes listed in the table below.

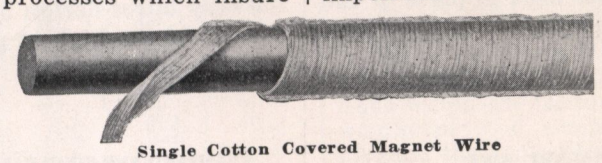
STANDARD CONCENTRIC LAID ANNEALED BARE COPPER CABLE (STRANDED)

Circular mils	No. of wires in strand	Diam. each wire, in.	Diam. of strand, in.	Wt. per 1,000 ft. strand, lb.	Wt. per mile, lb.	Area, square in.	Resistance per 1,000 ft. at 68° F. or 20° C	Circular mils	No. of wires in strand	Diam. each wire, in.	Diam. of strand, in.	Wt. per 1,000 ft. strand, lb.	Wt. per mile, lb.	Area, square in.	Resistance per 1,000 ft. at 68° F. or 20° C
2,000,000	91	.1482	1.6302	6164.0	32546	1.56874	.00530	350,000	37	.0973	.6811	1078.0	5692	.27512	.03026
1,750,000	91	.1386	1.5257	5394.0	28480.0	1.36494	.00607	300,000	19	.1257	.6285	923.0	4873	.23591	.0353
1,500,000	91	.1284	1.4124	4623.0	24409	1.17831	.00707	250,000	19	.1147	.5738	769.0	4060	.19635	.04233
1,250,000	91	.1172	1.2892	3853.0	20344	.98170	.00852	211,600	19	.1055	.5275	647.1	3416.7	.16609	.04997
1,000,000	61	.1280	1.1520	3081.0	16268	.78494	.01060	167,772	19	.094	.4700	513.2	2709.7	.13187	.06293
950,000	61	.1248	1.1232	2927.0	15455	.74618	.01115	133,079	7	.1378	.4134	405.9	2143.2	.10429	.07935
900,000	61	.1215	1.0935	2773.0	14641	.70724	.01179	105,625	7	.1228	.3684	321.7	1698.6	.08303	.10007
850,000	61	.1181	1.0629	2619.0	13828	.66852	.01247	83,694	7	.1093	.3279	255.2	1347.5	.06559	.12617
800,000	61	.1145	1.0305	2465.0	13015	.62810	.01325	66,358	7	.0973	.2919	202.4	1068.7	.05205	.15725
750,000	61	.1109	.9981	2311.0	12202	.58922	.01413	52,624	7	.0867	.2601	160.5	847.4	.04132	.19827
700,000	61	.1071	.9639	2157.0	11389	.54954	.01514	41,738	7	.0772	.2316	127.3	672.1	.03276	.25000
650,000	61	.1032	.9288	2003.0	10576	.51020	.01630	26,244	7	.0612	.1836	80.0	422.4	.02059	.39767
600,000	61	.0992	.8928	1849.0	9763	.47146	.01767	16,512	7	.0485	.1458	50.3	265.6	.01298	.62686
550,000	37	.1219	.8533	1694.0	8944	.43181	.01925	10,384	7	.0385	.1155	31.6	166.8	.00815	1.00848
500,000	37	.1162	.8134	1540.0	8131	.39237	.02116	6,528	7	.0305	.0915	19.9	105.1	.00511	1.59716
450,000	37	.1103	.7721	1386.0	7318	.35234	.02349	4,108	7	.0242	.0726	12.5	66.0	.00322	2.54192
400,000	37	.1040	.7280	1232.0	6505	.31431	.02648								

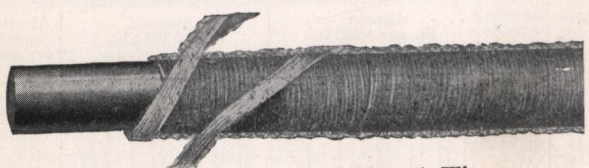
Magnet Wire

All copper wire drawn for magnet wire purposes, is thoroughly annealed by processes which insure uniform and extreme softness, highest conductivity and ease of handling. Before insulation is applied, all wire is carefully inspected for size, uniformity of dimensions, freedom from scale and all surface imperfections. Our magnet wire is covered with single, double or triple cotton or silk, asbestos and cotton, and with paper or enamel.

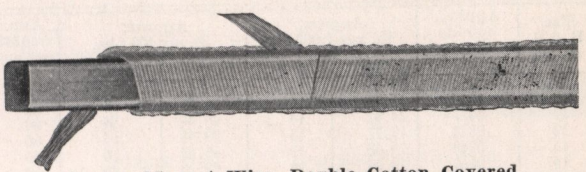
We also make special kinds of magnet wire.



Single Cotton Covered Magnet Wire



Double Cotton Covered Magnet Wire



Square Magnet Wire, Double Cotton Covered

SINGLE COTTON COVERED MAGNET WIRE

Size B. & S. gauge	List No.	Approx. outside diam., in.	Approx. lb. per 1,000 ft.	Net weight of copper per 100 lb. of finished wire	Approx. quantity per spool, lb.
0	5000	.333	321	99.5	200
1	5001	.297	255	99.5	150
2	5002	.266	202	99.4	150
3	5003	.237	160	99.4	150
4	5004	.212	127	99.3	150
5	5005	.190	101	99.2	150
6	5006	.170	80	99.1	150
7	5007	.152	64	99.0	150
8	5008	.137	50.4	98.9	150
9	5009	.120	40.1	98.8	150
10	5010	.108	31.8	98.7	150
11	5011	.097	25.3	98.5	150
12	5012	.087	20.0	98.3	150
13	5013	.078	16.0	98.1	150
14	5014	.070	12.6	98.1	150
15	5015	.063	10.1	97.8	150
16	5016	.0553	7.96	97.9	50
17	5017	.0498	6.35	97.6	50
18	5018	.0448	5.04	97.3	50
19	5019	.0404	4.01	96.9	12½
20	5020	.0365	3.20	96.5	12
21	5021	.033	2.55	96.1	12
22	5022	.0298	2.02	95.5	11½
23	5023	.0271	1.62	95.1	11
24	5024	.0246	1.29	94.3	10½
25	5025	.0224	1.03	93.9	4
26	5026	.0204	.82	92.8	4
27	5027	.0187	.66	92.0	3½
28	5028	.0171	.524	91.2	3
29	5029	.0158	.427	89.9	3
30	5030	.014	.336	89.4	3
31	5031	.0129	.272	88.0	2½
32	5032	.012	.220	86.2	2½
33	5033	.0111	.178	84.7	2.3
34	5034	.0103	.144	82.4	2
35	5035	.0096	.119	79.2	2
36	5036	.009	.099	75.4	2

DOUBLE COTTON COVERED MAGNET WIRE

Size B. & S. gauge	List No.	Approx. outisde diam., in.	Approx. lb. per 1,000 ft.	Net weight of copper per 100 lb. of finished wire	Approx. quantity per spool, lb.
0	5100	.339	323.0	99.0	200
1	5101	.303	256.0	98.9	150
2	5102	.272	203.0	98.8	150
3	5103	.243	161.0	98.6	150
4	5104	.218	128.0	98.5	150
5	5105	.196	102.0	98.5	150
6	5106	.176	81.0	98.3	150
7	5107	.158	64.0	98.1	150
8	5108	.142	51.0	97.9	150
9	5109	.125	40.4	97.9	150
10	5110	.113	32.1	97.6	150
11	5111	.102	25.5	97.3	150
12	5112	.092	20.3	97.0	150
13	5113	.083	16.2	96.6	150
14	5114	.075	12.9	96.2	150
15	5115	.068	10.3	95.8	150
16	5116	.0598	8.13	95.8	50
17	5117	.0543	6.49	95.4	50
18	5118	.0493	5.16	94.9	50
19	5119	.0449	4.12	94.4	11½
20	5120	.041	3.30	93.7	11
21	5121	.0375	2.64	92.8	11
22	5122	.0343	2.10	91.9	11
23	5123	.0316	1.69	90.8	9½
24	5124	.0291	1.36	89.6	9
25	5125	.0269	1.10	87.4	3
26	5126	.0249	.883	85.8	3
27	5127	.0232	.718	84.2	2.7
28	5128	.0216	.580	81.9	2½
29	5129	.0203	.477	80.0	2½
30	5130	.0185	.382	78.0	2.3
31	5131	.0174	.316	75.1	2
32	5132	.0165	.260	72.1	2
33	5133	.0156	.216	68.9	1½
34	5134	.0148	.179	65.3	1½
35	5135	.0141	.150	61.7	1½
36	5136	.0135	.127	57.5	1½

(Continued on Next Page)

SINGLE SILK COVERED MAGNET WIRE

Size B. & S. gauge	List No.	Approx. outside diam., in.	Approx. lb. per 1,000 ft.	Net weight of copper per 100 lb. finished wire	Approx. quantity per spool lb.
16	5216	.0526	7.88	99.1	50
17	5217	.0471	6.27	99.0	50
18	5218	.0421	4.97	98.9	50
19	5219	.0377	3.95	98.8	13
20	5220	.0338	3.14	98.6	12.5
21	5221	.0303	2.496	98.4	12.5
22	5222	.0272	1.970	98.2	12
23	5223	.0244	1.576	98.0	11.5
24	5224	.0219	1.250	97.8	11
25	5225	.0197	.9940	97.5	4.5
27	5227	.0160	.6297	96.8	3.5
28	5228	.0144	.4970	96.6	3.5
31	5231	.0107	.2539	95.0	2.5
32	5232	.0098	.2022	94.5	2.5
33	5233	.0089	.1620	93.6	2
34	5234	.0081	.1301	92.2	2
35	5235	.0074	.1050	90.7	2
36	5236	.0068	.0852	88.8	1.5

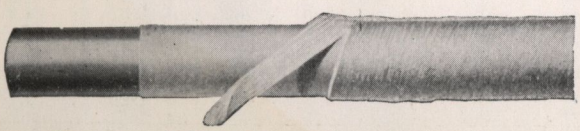
Enameled and Single Cotton Covered Magnet Wire—Insulated as described above and covered with one wind of cotton.

Makes a good substitute for double silk covered magnet wire, and is sometimes used in place of the impregnated single or double cotton covered magnet wire.

PLAIN ENAMELED MAGNET WIRE

Size B. & S. gauge	Approx. outside diam., in.	Approx. lb. per 1,000 ft.		Approx. lb. per 100 Lbs.		Approx. quantity per spool, lb.
		Copper	Enamel	Copper	Enamel	
9	.1164	39.63	.18	99.55	.45	60
10	.1039	31.43	.16	99.49	.51	60
11	.0927	24.92	.14	99.44	.56	60
12	.0828	19.77	.13	99.35	.65	60
13	.0740	15.68	.12	99.24	.76	60
14	.0661	12.43	.10	99.20	.80	60
15	.0591	9.858	.091	99.08	.92	60
16	.0524	7.818	.065	99.18	.82	60
17	.0469	6.200	.058	99.07	.93	60
18	.0419	4.917	.051	98.97	1.03	60
19	.0375	3.899	.046	98.83	1.17	13
20	.0324	3.092	.036	98.85	1.15	13
21	.0299	2.452	.032	98.71	1.29	13
22	.0267	1.945	.029	98.53	1.47	13
23	.0238	1.542	.022	98.59	1.41	13
24	.0213	1.223	.019	98.47	1.53	13
25	.0191	.9699	.0174	98.23	1.77	4½
26	.0169	.7692	.0122	98.44	1.56	4½
27	.0152	.6100	.0110	98.23	1.77	4½
28	.0136	.4837	.0098	98.01	1.99	4½
29	.0122	.3836	.0087	97.78	2.22	4½
30	.0109	.3042	.0079	97.47	2.53	4
31	.00973	.2413	.0058	97.65	2.35	4
32	.00825	.1913	.0052	97.35	2.65	4
33	.00775	.1517	.0038	97.56	2.44	3½
34	.00696	.1203	.0034	97.25	2.75	2
35	.00617	.09542	.00256	97.38	2.62	2
36	.00555	.07568	.00227	97.08	2.92	1½
37	.0049	.06001	.00165	97.32	2.68	1½
38	.00442	.04759	.00147	97.01	2.99	1½
39	.00388	.03774	.00102	97.36	2.64	1½
40	.00350	.02993	.00091	97.05	2.95	1½

Asbestos and Single Cotton Covered Magnet Wire—A very thin asbestos tape is first applied to the wire. One or two cotton winds are generally put over the asbestos tape.



Asbestos and Single Cotton Covered Magnet Wire

DOUBLE SILK COVERED MAGNET WIRE

Size B. & S. gauge	List No.	Approx. outside diam., in.	Approx. lb. per 1,000 ft.	Net weight of copper per 100 lb. finished wire	Approx. quantity per spool lb.
16	5316	.0544	7.95	98.2	50
17	5317	.0489	6.33	98.1	50
18	5318	.0439	5.02	98.0	50
19	5319	.0395	3.99	97.6	13
20	5320	.0356	3.184	97.3	12.5
21	5321	.0321	2.533	97.0	12.5
22	6322	.0290	2.004	96.6	12
23	5323	.0262	1.606	96.1	11.5
24	5324	.0237	1.277	95.7	11
25	5325	.0215	1.018	95.2	4.5
27	5327	.0178	.6477	94.1	3.5
28	5328	.0162	.5140	93.4	3.5
31	5331	.0125	.2661	90.6	2.5
32	5332	.0116	.2130	89.7	2.5
33	5333	.0107	.1723	88.0	2
34	5334	.0099	.1397	85.9	2
35	5335	.0092	.1138	83.6	2
36	5336	.0086	.0936	80.8	1.5

Enameled Magnet Wire—Consists of copper wire having a coat of enamel baked thereon. Used for many purposes where cotton and silk covered magnet wires are undesirable.

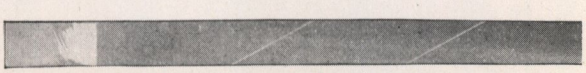
Our equipment for making this product embodies the very latest design of apparatus and the enamel used is of the highest grade specially compounded for this purpose.

ENAMELED AND SINGLE COTTON COVERED MAGNET WIRE

Size B.&S. gauge	Approx. outside diam., in.	Approx. lb. per 1,000 ft.			Approx. lb. per 100 Lbs.			Approx. quantity per spool, lb.
		Copper	Enamel	Cotton	Copper	Enamel	Cotton	
9	.1234	39.63	.18	.51	98.28	.45	1.27	150
10	.1099	31.43	.16	.39	98.28	.50	1.22	150
11	.0987	24.92	.14	.35	98.07	.55	1.38	150
12	.0888	19.77	.13	.32	97.78	.64	1.58	150
13	.0785	15.68	.12	.27	97.57	.75	1.68	150
14	.0706	12.43	.10	.24	97.34	.78	1.88	150
15	.0636	9.858	.091	.22	96.95	.89	2.16	150
16	.0569	7.818	.065	.178	96.99	.81	2.20	50
17	.0514	6.200	.058	.160	96.61	.90	2.49	50
18	.0464	4.917	.051	.145	96.17	1.00	2.83	50
19	.0420	3.899	.046	.128	95.73	1.13	3.14	12
20	.0379	3.092	.036	.115	95.34	1.11	3.55	11½
21	.0344	2.452	.032	.102	94.81	1.24	3.95	11
22	.0312	1.945	.029	.091	94.19	1.41	4.40	10½
23	.0283	1.542	.022	.082	93.68	1.34	4.98	10
24	.0258	1.223	.019	.075	92.86	1.44	5.69	10
25	.0236	.9699	.0174	.068	91.92	1.64	6.44	4
26	.0214	.7692	.0122	.061	91.31	1.45	7.24	4
27	.0197	.6100	.0110	.056	90.10	1.63	8.27	3½
28	.0181	.4837	.0098	.053	88.51	1.79	9.70	3
29	0167	3836	0087	050	86 72	1 97	11 31	3
30	0154	3042	0079	042	85 91	2 23	11 86	2¾
31	01423	2413	0058	037	84 93	2 04	13 03	2½
32	10135	1913	0052	035	82 63	2 25	15 12	2¼
33	01225	1517	0038	033	80 48	2 02	17 50	2
34	01146	1203	0034	031	77 76	2 20	20 04	1¾
35	01017	09542	00256	025	77 59	2 08	20 33	1½
36	00955	07568	00227	0242	74 09	2 22	23 69	1½
37	.....	06001	00165	0237	70 30	1 93	27 77	.....
38	.....	04759	00147	.....	.....	.....	.....	.....
39	.....	03774	00102	.....	.....	.....	.....	.....
40	.....	02993	00091	.....	.....	.....	.....	.....

Paper Covered Magnet Wire—The space required by paper insulation is less than half that required for a double cotton covering, thus allowing more ampere turns in a given space.

Very best grade of manila rope paper is used, containing no particles of iron or wood pulp and no trace of alkali or acid.



Paper Covered Magnet Wire

Tinned Steel Armature Binding Wire

Grade A—115,000 to 125,000 lb. tensile strength per sq.in. Used to bind armatures of small motors and dynamos.

Grade B—200,000 to 225,000 lb. tensile strength per sq.in. Commercial grade. For motors and dynamos of ordinary commercial size and speed.

Grade C1 or Special—240,000 to 270,000 lb. tensile strength per sq.in. Made of very high grade wire and used where great strength is required.

Grade C2 or Grade C—300,000 to 350,000 lb. tensile strength per sq.in. Used when extra high tensile strength is required, as on motors and dynamos of unusual size and high speed. Usually furnished on spools weighing 5, 10, 25, 50 and 100 lb. each.

AMERICAN TINNED STEEL ARMATURE BINDING WIRE

Size, B. & S. gauge	Diam., in.	Actual tensile strength, lb.			
		Grade A	Grade B	Grade C1 or Special	Grade C2 or C
10	.1019	938	1,631	1,957	2.447
11	.0907	743	1,292	1,551	1,938
12	.0808	590	1,026	1,231	1,538
13	.072	468	814	977	1,221
14	.0641	371	645	774	968
15	.0571	294	512	615	768
16	.0508	233	405	486	608
17	.0453	185	322	387	484
18	.0403	147	255	306	383
19	.0359	116	202	243	304
20	.032	92.5	181	193	241
21	.0285	73.4	128	133	191
22	.0253	57.8	101	121	151
23	.0226	46.1	80.2	88.3	120
24	.0201	30.5	63.5	76.2	95.2
25	.0179	28.9	50.5	60.4	75.5
26	.0159	22.8	39.7	47.7	59.6

Annunciator Wire

Used in primary battery circuits for call bell or annunciator wiring. Commercially pure, soft copper wire from No. 14 to No. 22 B. & S. is used. This is insulated with two firm winds of cotton applied in opposite directions and saturated with specially prepared paraffin wax compound. Outside wrap is made of any color or combination of colors, the most common being bright and fast red or blue with white. Put up on spools weighing about 5 to 7 lbs. net.



Annunciator Wire

Size, B. & S. gauge	List No.	Length, in 1 lb., ft.	Size, B. & S. gauge	List No.	Length, in 1 lb., ft.
14	3114	67	20	3120	212
16	3116	101	22	2122	311
18	3118	155	..	....	...

"Black Core" or "Dampproof" Annunciator Wire—Finished in colors as above. Shipped on spools of about 7 lb. net. Made with the inside wind saturated with our weatherproof compound, permitting its use in damp places. Outside wind of cotton, which is made in colors, is saturated with special paraffin wax compound, and finished so as to present a smooth and highly polished surface that will not catch dust.

"BLACK CORE" OR "DAMPPROOF" ANNUNCIATOR WIRE

Size, B. & S. gauge	List No.	Length in 1 lb., ft.	Size, B. & S. gauge	List No.	Length in 1 lb., ft.
14	3214	60	20	3220	200
16	3216	90	22	3222	280
18	3218	130	..	....	...

Office Wire

Standard grade consists of a copper conductor, varying in size from No. 14 to No. 20 B. & S., insulated with one wind and one braid of cotton, both of which are applied tight and even.

These two cotton covers are thoroughly saturated with our special paraffin wax compound. The outer braid is given a high polish and is made in any color or combination of colors specified. The standard colors are red and white, or blue and white.

Used largely by telephone and telegraph companies for inside wiring, extending from the instruments to the junction where they connect with outside wires and cables as they enter building. Also used as high grade bell and annunciator wire.

This wire is put up on coils of about 20 lb.



Office Wire

Size, B. & S. gauge	List No.	Length in 1 lb., ft.	Size, B. & S. gauge	List No.	Length in 1 lb., ft.
14	3314	56	18	3318	115
16	3316	80	20	3320	154

"Black Core" or "Dampproof" Office Wire—Has two inside cotton winds applied in opposite directions which are thoroughly impregnated with black weatherproofed compound. The outside braid is finished the same as regular office wire.

Used where higher grade of insulation is required.

Packed same as regular office wire.



"Black Core" or "Dampproof" Office Wire

Size, B. & S. gauge	List No.	Length in 1 lb., ft.	Size, B. & S. gauge	List No.	Length in 1 lb., ft.
14	3414	53	18	3418	98
16	3416	72	20	3420	153

Special Annunciator and Office Wire—Special kinds furnished as specified. Also conductors of other than standard sizes, either solid or stranded. Untinned copper wire is used in the regular product, but tinned wire will be furnished if required.

Multiple Conductors—Any of these insulated wires supplied, two in parallel or twisted in pairs, in 3-conductor cables or in cables having any number of conductors. Same can be covered with one or more braids, or with tape and braid, and finished in any manner specified.

Reliance Weatherproof and Slow Burning Wires and Cables

These have moderate degree of insulation and are less expensive than rubber insulated conductors. Double and triple braid.

Reliance weatherproof wire meets every requirement for outdoor service, while Reliance slow burning wire is superior for indoor uses. These wires and cables are made in strict accordance with all requirements of the National Board of Fire Underwriters, sizes varying from No. 20 B. & S. gauge to the largest feeder cables used. Sizes No. 4/0 B. & S. gauge and smaller are usually made of solid

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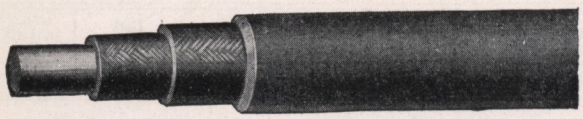
wires, while larger sizes have stranded conductors.

Unless otherwise specified, wires of annealed copper will be used.

Reliance Weatherproof Insulation—For use outdoors where moisture is certain and where fireproof qualities are not necessary; also where, on account of small separation, bare wires will be liable to swing into contact with each other, or with other low tension cables.

The wires are first covered by two or three closely and evenly woven braids of strong fibrous material, which is then completely saturated with a weatherproof insulating compound. After drying thoroughly, the wire receives a dressing of mineral wax, when the surface is thoroughly burnished and polished, reducing to minimum trouble from sleet and ice.

The insulation will withstand all ordinary climatic condition.



Reliance Solid Weatherproof Wire, Triple Braid
Solid copper wire, triple braid, black finish
National Electrical Code Standard

Size, B. & S. gauge	Minimum thickness of insulation, in.	List No.	Weight, lb.		Standard packages, amounts, ft.
			Per 1000 ft.	Per mile	
0000	.0781	2140	767	4050	2400
000	.0781	2130	629	3320	2500
00	.0781	2120	502	2650	3200
0	.0781	2100	407	2150	4300
1	.0781	2101	316	1670	1000
2	.0625	2102	260	1370	1300
4	.0625	2104	164	865	2100
6	.0625	2106	112	590	3400
8	.0469	2108	75	395	5000
10	.0469	2110	53	280	2000
12	.0469	2112	35	185	3000
14	.0469	2114	25	130	4000
16	.0469	2116	20	105	2500
18	.0469	2118	16	85	3000



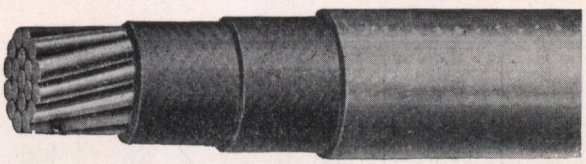
Reliance Stranded Weatherproof Wire, Triple Braid
Stranded copper conductors, triple braid, black finish
National Electrical Code Standard

	Minimum thickness of insulation, in.	List No.	Weight, lb.		Standard packages, amounts, ft.
			Per 1000 ft.	Per mile	
2,000,000	.1250	2350	7008	37,000	600
1,750,000	.1250	2351	6193	32,700	700
1,500,000	.1250	2352	5380	28,400	850
1,250,000	.1250	2553	4508	23,800	1000
1,000,000	.1250	2354	3674	19,400	1320
900,000	.1094	2357	3332	17,600	1320
800,000	.1094	2359	2992	15,800	1320
750,000	.1094	2360	2822	14,900	1320
700,000	.1094	2361	2650	14,000	1320
600,000	.1094	2363	2235	11,800	1320
500,000	.1094	2365	1894	10,000	1320
450,000	.0938	2367	1724	9,100	1320
400,000	.0938	2368	1553	8,200	1320
350,000	.0938	2369	1345	7,100	2640
300,000	.0938	2370	1174	6,200	2640
250,000	.0938	2371	985	5,200	2640
0000	.0781	2340	800	4,220	2000
000	.0781	2330	653	3,450	2000
00	.0781	2320	522	2,760	3000
0	.0781	2300	424	2,240	3000
1	.0781	2301	328	1,735	1000
2	.0625	2302	270	1,425	1300
4	.0625	2304	170	900	2100
6	0625	2306	115	610	3400
8	.0469	2308	78	410	5000

Reliance Slow Burning Wires and Cables—Have insulation that will not carry flame. Especially useful in hot, dry places, and where wires are brought together, as on the back of a large switchboard or in a wire tower. Each insulating braid is completely saturated with white slow burning compound, and outside thoroughly slicked down and given a hard, smooth, white surface.

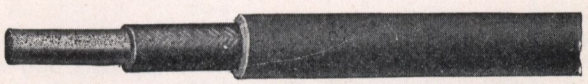


Reliance Slow Burning Wire
Solid conductor, 3 white braids, N. E. Code standard



Reliance Slow Burning Cable
Stranded copper conductors, 3 white braids

Reliance Weatherproof Iron Wire—Furnished with either 2 or 3 weatherproof cotton braids. Used principally for telegraph or telephone service where danger of short circuits with other wires or trees exists.



Reliance Weatherproof Iron Wire, Double Braid

Size B. W. G.	List No.		Weight per mile, lb.	Length of coil, ft.
	B. B. extra galvanized	Extra B. B. extra galvanized		
8	2708	2808	472	2640
9	2709	2809	375	2640
10	2710	2810	316	2640
12	2712	2812	226	2640
14	2714	2814	153	2640



Reliance Weatherproof Iron Wire, Triple Braid
For fire alarm, telephone, telegraph and burglar alarm construction where danger of short circuits with other wires or trees exists

Size B. W. G. gauge	List No.		Weight per mile, lb.	Length of coil, ft.
	B. B. extra galvanized	Extra B. B. extra galvanized		
8	2908	3008	528	2640
9	2909	3009	407	2640
10	2910	3010	346	2640
12	2912	3012	255	2640
14	2914	3014	181	2640

Americore Flexible Cords

The term "cord" is ordinarily applied to any small pliable cable consisting of two or more flexible conductors insulated with rubber and braided. Under this heading are included all lamp and reinforced portable cords, theater and stage, border light and heater cords. Lamp cord in single conductor is used for exposed fixture work and is classified and tagged as flexible fixture wire.

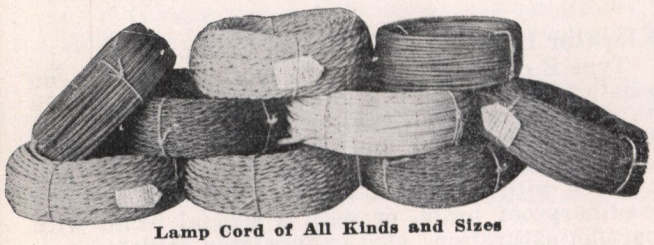
Care should be taken not to confuse this with

regular rubber covered fixture wire which is used for concealed fixture work.

Flexible cord is used in short lengths for exposed wiring in offices and residences to connect the concealed wiring with drop lights and appliances of various kinds, and is used in many other places where a short flexible connection is wanted. Its use is confined to temperatures not exceeding 120° F. and voltages not exceeding 300, except sizes 14 and larger with three-sixty-fourth inch insulation, which may be used where difference in potential is not more than 600 volts.

The standard colors for cotton braids on lamp and portable cords are:

Type C—Green and yellow (combination)
Type PO—Black
Type PD—Black
Type P-64—Black
Type P-32—Black



Lamp Cord of All Kinds and Sizes

There are no standard colors for silk braids, and each order must specify the color desired.

All dry cotton braided cords are furnished with a red tracer thread in the braid on one conductor for polarity identification. Weatherproof finished cords have raised tracer in one conductor and in the case of three-conductor cords, the second conductor has two raised tracers. Silk covered cords with the exception of Type C, have red traced same as dry cotton braided cords. Type C silk covered tracer furnished only when specified.

Construction—The conductors of all flexible cords are made up of the required number of untinned annealed copper wires, each No. 30 B. & S. gauge, bunched together, covered with a tight close wind of fine cotton, and insulated with the required thickness of rubber. No size smaller than No. 18 is approved by the Underwriters. The balance of the construction differs in the various types, a brief description of which follows.

Lamp Cord (Type C)—For pendant or portable use, hanging free in air, in dry places, and not subject to hard usage. Construction: twisted pair, with glazed cotton or silk braid on each conductor. No outer covering. Insulation not less than 32nds in. for Nos. 16 and 18 B. & S. gauge. Larger sizes, same as for rubber covered wires. See table below.

Parallel Lamp Cord (Type PO)—For portable or pendant use in offices, dwellings and similar dry places where not likely to be subjected to rough usage and where appearance is an essential feature. Construction: parallel wires, with soft cotton braid on each conductor, glazed cotton or silk braid over the parallel wires.

Insulation same as Type C except that 64ths-in. rubber may be used in Size No. 18 only. See table at top of next column.



Twisted Lamp Cord

AMERICORE LAMP CORD, TYPES C AND PO

Size, B. & S. gauge	Number of wires in strand	Rubber, in.	Twisted Pair (Type C)				Twin Conductor (Type PO)			
			Cotton covered		Silk covered		Cotton covered		Silk covered	
			List No.	Weight per 1000 ft., lb.	List No.	Weight per 1000 ft., lb.	List No.	Weight per 1000 ft., lb.	List No.	Weight per 1000 ft., lb.
10	104	3/64	1100	122	1600	117	1400	120	1630	115
12	65	3/64	1102	88	1602	84	1402	87	1632	84
14	41	3/64	1104	62	1604	59	1404	65	1634	62
16	26	1/32	1106	36	1606	35	1406	37	1636	35
18	16	1/32	1108	27	1608	26	1408	28	1638	27
20	10	1/32	1110	21	1610	21	1410	23	1640	21
22	6	1/32	1112	18	1612	17	1412	19	1642	18

Twisted Portable Cord (Type PD)—For pendant or portable use in offices, dwellings, or similar dry places where not likely to be subjected to rough usage and where appearance is essential. Construction; twisted pair, with soft cotton braid on each conductor; outer covering of glazed cotton or silk. Insulation same as Type C.

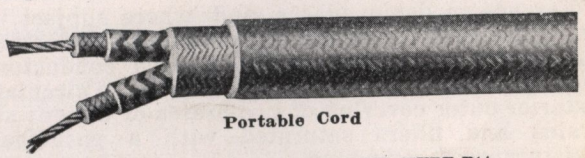
Moistureproof Reinforced Cord (Type PWP32)—For pendant or portable use in damp places. Construction: twisted pair, with soft cotton braid on each conductor; rubber jacket not less than 64ths in. thick around the twisted pair; outer covering of soft cotton, saturated with a moistureproof compound. Insulation on conductors same as Type C, except that 64ths-in. rubber may be used on size No. 18 only. See table in this column.

Reinforced Cord (Type P32)—For pendant or portable use in dry places, and where subject to hard usage. Construction: twisted pair, with soft cotton braid on each conductor; rubber jacket not less than 64ths in. thick around the twisted pair; outer covering of glazed cotton or silk. Insulation on conductors same as Type C except that 64ths-in. rubber may be used on size No. 18 only. See table in opposite column.

Light Reinforced Cord (Type PL)—For pendant or portable use in dry places and where not subject to hard usage. Construction: twisted pair with no braid on each conductor; jacket of Americore rubber not less than 64ths in. thick around the twisted pair, outer covering of glazed cotton or silk.

Insulation on conductors same as Type C.

Type P-64—A reinforced cord made the same as Type P except that the individual conductors are insulated with rubber 64ths in. thick. Approved by the Underwriters, except in size No. 18 B. & S. gauge.



Portable Cord

REINFORCED PORTABLE CORD, TYPE P64

Size, B. & S. gauge	Number of wires in strand	Rubber, in.	Dry Cotton Braid (Type P64)		Silk Braid (Type P64)	
			List No.	Weight per 1000 ft., lb.	List	Weight per 1000 ft., lb.
18	16	1/64x1/64	1148	39	1666	37

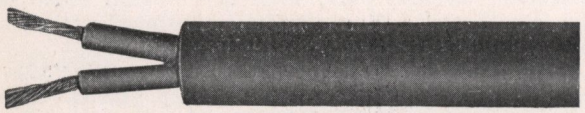
REINFORCED PORTABLE CORD, TYPES P AND PWP

Size, B. & S. gauge	Number of wires in strand	Rubber, in.	Dry Cotton Braid (Type P32)		Saturated Braid (Type PWP32)	
			List No.	Weight per 1000 ft., lb.	List No.	Weight per 1000 ft., lb.
14	41	3/64x1/64	1164	118	1184	123
16	26	1/32x1/64	1166	69	1186	73
18	16	1/32x1/64	1168	57	1188	61
20	10	1/32x1/64	1170	48	1190	52

(Continued on Next Page)

Rubber Clad Portable Cords

The conductors in sizes Nos. 10, 12 and 14 are made up with regular lamp cord strand; in sizes Nos. 16 and 18 conductors are lamp cord strand strengthened by the addition of five No. 30 B. & S. gauge tinned monitor steel wires. The conductors are cotton wound, insulated with 30% rubber (64 in. on No. 14 and larger; 0.28 in. on No. 16 and smaller), two or three conductors twisted together with cotton fillers and covered with 60% rubber to the diameter shown in the table below. For tracer purposes, black rubber is used on one conductor, and red rubber on the other conductor of two-conductor cord. In three-conductor cord, the third conductor has a skeleton braid of colored cotton. It is used where abrasion wear is very great and a high class cord is desired.



RUBBER CLAD PORTABLE CORD

Size, B. & S. gauge	Weight per 1000 ft.	Packing	Approximate outside, diam., in.
Two-conductor			
10	224	500-ft. coils	.626
12	184	500-ft. coils	.580
14	146	500-ft. coils	.526
16	93	250-ft. coils	.410
18	81	250-ft. coils	.390
Three-conductor			
10	290	500-ft. coils	.661
12	232	500-ft. coils	.612
14	182	500-ft. coils	.554
16	115	250-ft. coils	.430
18	98	250-ft. coils	.408

Rubber Clad Junior Cord—We also supply No. 18 B. & S. gauge rubber clad junior two-conductor for use on vacuum cleaners and washing machines. It is the same as regular No. 18 cord except that no steel wires are used and the belt of 60% rubber is considerably thinner as shown by the outside diameter, which is .296 in. Put up in 250-ft. coils. Weight, 49 lb. per 1000 ft.

Braided Heavy Duty Cord—Type K

This is a new type of cord approved by the National Board of Fire Underwriters to take place of the old styles of brewery, packing house and canvasite cord.

For use in damp places and where subject to hard usage. Construction: Twisted conductors with paraffined cotton braid on each conductor; these are built up with jute fillers to make circular. Exterior outer covering of two braids of cotton; all braids and fillers saturated with a paraffined moistureproof compound.

Insulation not less than 32 in. for sizes No. 16 and 18 B. & S. gauges, and not less than 64 in. for larger sizes.



Braided Heavy Duty Cord—Type K

Stage Cable (Type T)

For use on theater stages. Construction: not more than three conductors twisted together, soft cotton braid on each conductor, braids saturated with moistureproof compound, conductors twisted with jute fillers to make round and covered with two soft cotton braids thoroughly saturated with moistureproof compound. If desired, tape may be substituted for inner braid of outer covering. Sizes larger than No. 4 B. & S. gauge are not approved by the Underwriters. Insulation same as Type C lamp cord.



Theater or Stage Cable

Border Light Cable (Type B)

For use as theater border light cable. Construction: same as stage cable except that they have no jute fillers and may have more than three conductors.

Elevator Lighting and Control Cable

Type E construction, two or more conductors, no smaller than No. 14 B. & S. for lighting, nor No. 16 B. & S. for control cables, insulated with code thickness of rubber and covered with a dry soft cotton braid; conductors twisted together and covered with a layer of rubber filled tape and one weatherproof braid, or with a special braid with paraffin saturation; also annunciator cables.

Americore Heater Cord

Made in six standards:

Duplex heater cord (Standards A, C and E).

Twisted pair heater cord (Standards B, D and F).



Americore Heater Cord

Specifications—

Standard E—Conductor made up of flexible A. & C. copper strand *bunched*, covered with a cotton wind, insulated with 64 in. Americore rubber and *one asbestos wind*. Two such conductors, one of which contains red tracer twisted together and covered over all with one hard slate grey cotton braid.

Standard F—Conductor made up of flexible A. & C. copper strand *bunched*, covered with a cotton wind, insulated with 64 in. Americore rubber, *one asbestos wind*, one hard slate grey cotton braid. Two such conductors twisted together, one of which contains red tracer.

All above constructions are approved by the National Board of Fire Underwriters, and are furnished in sizes 14, 16, 17 and 18 B. & S. gauge in 500-ft. standard coils.

Note: We are in a position to make other constructions. Prices will be furnished upon receipt of full specifications or sample.

AMERICORE HEATER CORDS

Construction	B. & S. gauge	Weight, 1,000 ft.	Feet in coil	Approx. diam., in.	List No.
Standard "E"	12	73	500	.407	1842
	14	51	500	.349	1844
	16	36	500	.315	1846
	17	31	500	.309	1847
	18	27	500	.289	1848
Standard "F"	12	73	500	.448	1852
	14	51	500	.390	1854
	16	38	500	.356	1856
	17	33	500	.350	1857
	18	29	500	.330	1858

Braided Rubber-Covered Wires and Cables

Used for general interior light and power wiring. The conductor consists of uniformly soft annealed commercially pure copper wire, insulated with code thickness of high grade vulcanized rubber protected with closely woven, strong and elastic braids. All conductors are thoroughly and evenly coated with tin to protect the copper from any injurious effect from the sulphur in the rubber insulation.

Grades of Rubber Insulation—Four standard grades of rubber compound are made for rubber covered conductors. In addition, the company insulates wire to any specifications covering particular requirements, such as 20 per cent or 40 per cent rubber compounds.

Americore Rubber Covered Wire—This grade meets all requirements of the National Electrical Code. It is recommended for all service conditions in which the working pressure is 7,000 volts or under.

Amparak Rubber Covered Wire—This is an "intermediate" grade commonly known as *engineers'* wire. The insulation is of a high grade of compound made to suit the demand of engineers and architects desiring a better wire than Americore but not so high a quality as Amerite. This grade is recommended especially for open wiring (knob and tube system) in dwellings, industrial plants, etc.

A. S. W. 30 Per Cent Wire—This high grade wire is often called for by contractors and used for the same purposes as Amerite wire. Sometimes known as Commercial 30 per cent.

Amerite Rubber Covered Wire—This is the highest grade of rubber covered wire. It answers all requirements of the 30 per cent Para rubber grade. It is used for high voltage circuits. It has great strength and elasticity, high insulating qualities, and long life.

Identification—Every wire insulated with the Company's standard compounds has a distinguishing woolen tracer thread placed lengthwise of the conductor between the rubber and the braid as follows: Americore, *uncolored* thread; Amparak, *dark green;* A. S. W. 30 per cent and Amerite, *crimson.*

Americore Rubber Covered Wires and Cables

This wire is made to comply with the National Electrical Code requirements and every coil is regularly examined and labeled under the supervision of the Underwriters' Laboratories, Inc. A strictly high grade wire for interior light and power wiring.

THICKNESS OF INSULATION OF AMERICORE WIRES
For Present National Electrical Code Standard

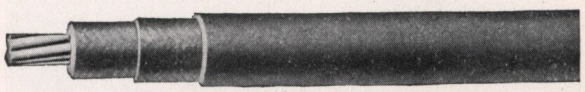
B. & S. gauge	Thickness of insulation in inches, for					
	0 to 600 volts	600 to 1500 volts	1500 to 2500 volts	2500 to 3500 volts	3500 to 5000 volts	5000 to 7000 volts
14-8	3/64	1/16	3/32	4/32	5/32	6/32
7-2	1/16	5/64	3/32	4/32	5/32	6/32
1-0000	5/64	3/32	7/64	4/32	5/32	6/32
cir. mils						
225,000 to 500,000	3/32	7/64	1/8	9/64	5/32	6/32
525,000 to 1,000,000	7/64	1/8	9/64	10/64	5/32	6/32
Over 1,000,000	1/8	9/64	10/64	11/64	7/32	9/32



Americore Rubber Covered Wire and Cable (Solid)

B. & S. gauge	Thickness of rubber, in.	Approx. diam. over all, in.		* List Nos.		Weight per 1000 ft., lb.		Standard packages and amounts, ft.
		Single braid	Double braid	Single braid finish. Type letter R. S.	Double braid finish. Type letter R. D.	Single braid	Double braid	
0000	5/64	41/64	47/64	810C	850C	...	...	....
000	5/64	40/64	43/64	810B	850B	...	...	....
00	5/64	37/64	40/64	810A	850A	...	...	....
0	5/64	34/64	37/64	810	850	...	...	....
1	5/64	32/64	35/64	811	851	...	...	....
2	4/64	28/64	31/64	812	852	261	271	1000
3	4/64	26/64	29/64	813	853	214	223	1000
4	4/64	24/64	27/64	814	854	177	186	1000
5	4/64	23/64	26/64	815	855	146	152	1000
6	4/64	21/64	24/64	816	856	122	128	500
8	3/64	17/64	20/64	818	858	77	83	500
10	3/64	15/64	18/64	820	860	53	58	500
12	3/64	14/64	17/64	822	862	39	44	500
14	3/64	13/64	16/64	824	864	29	33	500
16	3/64	10/64	13/64	826	866	17	20	1000
18	3/64	9/64	12/64	828	868	13	16	1000

*White finish wire takes same list numbers as black, with suffix "W" added
If Red is required add suffix "R" to list numbers



Americore Rubber Covered Wire and Cable (Stranded)
For Low Potential, 0-600 Volts

B. & S. gauge	Number and size of wires in strand, in.	Thickness of rubber, in.	Approx. diam. over all, in.		*List Nos.		Weight per 1000 ft., lb.	
			Single braid	Double braid	Single braid finish, Type letter R. S.	Double braid finish, Type letter R. D.	Single braid	Double braid
0000	19x.1055	5/64	49/64	52/64	557	867	...	837
000	19x.0940	5/64	45/64	48/64	558	868A	...	681
00	19x.0836	5/64	41/65	44/64	559	869	...	556
0	19x.0746	5/64	38/64	41/64	560	870	...	449
1	19x.0663	5/64	35/64	38/64	561	871	...	370
2	7x.0973	4/64	30/64	33/64	562	872	279	289
3	7x.0867	4/64	28/64	31/64	563	873	229	239
4	7x.0772	4/64	26/64	29/64	564	874	189	198
6	7x.0612	4/64	23/64	26/64	566	876	130	136
8	7x.0485	3/64	18/64	21/64	568	878	82	88
10	7x.0385	3/64	16/64	19/64	570	880	59	64
12	7x.0305	3/64	15/64	18/64	572	882	43	47
14	7x.0242	3/64	14/64	17/64	574	884	32	36

*White finish wire takes same list numbers as black, with suffix "W" added.
Standard packages and amounts: sizes 0000 to 4 inclusive, 1000 ft.; sizes 6 to 14 inclusive, 500 ft.



Americore Light Insulation Fixture Wire
Solid tinned copper conductor, rubber insulation, single braid, black finish

B. & S. gauge	Thickness rubber, in.	Diam. over braid, in.	List No.	Standard coils, ft.
16	1/64	6/64	8006	1000
18	1/64	5/64	8008	1000
20	1/64	5/64	....	1000

Americore Locomotive Gathering Cables and Americore Mining Machine Cables

Americore Locomotive Gathering Cables—These cables consist of a single flexible conductor of tinned annealed copper, insulated with code thickness (600 volts) of Americore rubber and covered with a braided finish, i. e., two regular cotton braids; one regular and one corded cotton braids; and one regular cotton braid with one tubular weave. All are furnished with heavy weatherproof finish.

(Continued on Next Page)

Americore Mining Machine Cables

These cables are ordinarily furnished in four general constructions and in a variety of finishes, i. e.: twin, duplex concentric Style A, duplex concentric Style B, and three-conductor, with the following finishes:

Two regular cotton braids.

Three regular cotton braids.

One regular cotton braid and one corded cotton braid.

Two regular cotton braids and one corded cotton braid.

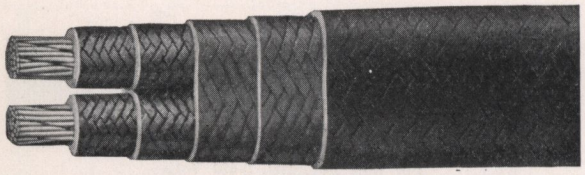
One regular cotton braid and one tubular weave.

All are finished with heavy weatherproof finish.

Twin Mining Machine Cable

Consists of two flexible conductors of tinned annealed copper, each of which is insulated with code thickness (600 volts) of Americore rubber and protected with a rubber filled tape.

The two insulated and taped conductors are laid parallel and covered with any one of the five finishes listed above.



Twin Mining Machine Cable

Duplex Concentric Mining Machine Cable Style A

Has an inner tinned copper conductor of flexible construction insulated with code thickness (600 volts) of Americore rubber and covered with a tape. Over this core is stranded the outer conductor consisting of a number of tinned annealed copper wires, equal in area to the central conductor. This layer of wires is insulated with code thickness (600 volts) of Americore rubber and covered with any one of the five finishes listed above.



Duplex Concentric
Stranded Mining Machine Cable

Duplex Concentric Mining Machine Cable Style B

Constructed the same as Style A except that there is no supplementary belt of rubber over the outer conductor.

Three-Conductor Mining Machine Cable

Consists of three flexible conductors of tinned annealed copper, each of which is insulated with code thickness (600 volts) of Americore rubber, covered with a rubber filled tape.

The individual conductors are twisted together with jute fillers, covered with a tape and braided as called for.

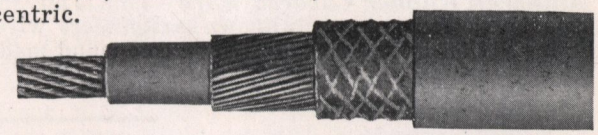
Rubber Clad Locomotive Gathering, Mining Machine and Welding Machine Cables

Used where conditions of operation are most severe. Practically proof against the deteriorating effects of oils, acids, etc., and their light weight and smooth, clean outer surface prevents them from accumulating grease and dirt and makes them easy to handle. These cables are fast replacing the ordinary braided styles.

Rubber Clad Locomotive Gathering Cables—These cables are made with flexible copper conductors, 133 wires.

Each conductor is insulated with $\frac{3}{64}$-in. 40 per cent rubber (size 1 has $\frac{4}{64}$-in. wall, size 2 and smaller $\frac{3}{64}$-in. wall), covered with a belt of 60 per cent rubber, $\frac{3}{32}$ in. in sizes 1, 2 and 3, and $\frac{5}{64}$ in. on size 4, which is highly resistive to abrasive wear.

Rubber Clad Mining Machine Cables—These cables are made in three constructions—two-conductor round, three-conductor, and two-conductor concentric.



Rubber Clad Locomotive Gathering and Mining Machine Cable

Two-conductor Round Cables—Have flexible conductors of tinned copper, insulated with 30% rubber ($\frac{4}{64}$ in. on No. 1; $\frac{3}{64}$ in. on No. 2 and smaller); two conductors twisted together with jute fillers and covered with $\frac{3}{64}$-in. 40% rubber and then covered with 60% rubber ($\frac{3}{32}$ in. on No. 6 and larger; $\frac{5}{64}$ in. on No. 8).

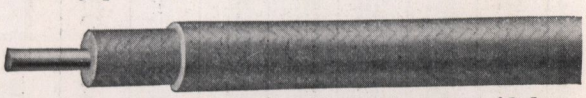
Three-conductor Cables—Constructed the same as the two-conductor round cables, except for the additional conductor.

Two-conductor Concentric Cables—Have flexible inner conductors of tinned copper insulated with code thickness (600 volts) of 30% rubber covered with a tape. Over this core is stranded the outer conductor consisting of 37 tinned copper wires equal in total area to the inner conductor. This is insulated with 40% rubber ($\frac{5}{64}$ in. on No. 6 and larger; $\frac{4}{64}$ in. on No. 8), and covered with 60% rubber ($\frac{5}{64}$ in. on No. 4 and larger; $\frac{3}{32}$ in. on No. 5 and smaller).

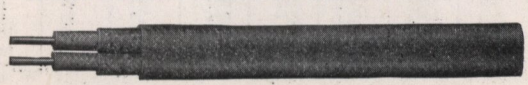
Rubber Clad Welding Machine Cables—These cables are composed of flexible conductors of tinned copper, insulated with 40% rubber ($\frac{4}{64}$ in. on sizes No. 1 and larger; $\frac{3}{64}$ in. on sizes No. 2 and smaller) covered with $\frac{5}{64}$ in. of 60% rubber.

Amerite Rubber Covered and Signal Wires

For station wiring, arc light and signal service and high voltage power transmission lines. Made to the most exacting specifications, in any size or finish, and for all services and voltages. The insulation contains only the highest grade Hevea rubber and other necessary preservative ingredients.



Amerite Solid Conductor, Insulated and Braided



Amerite Twin Signal Wires, Insulated and Braided

Parkway and Suburban Cables (Flat Steel Taped or Armorlokt)

These cables have been designed for use without conduit or other protection, and offer all the advantages of a cable in conduit at but a small part of the cost of such a system.

They are usually laid in the ground in a shallow trench from 12 to 24 in. below the surface, the depth depending upon the location, no other protection being necessary due to their construction.

These cables are made with any number of conductors, or any size, either solid or stranded, and for any voltage.

They may be insulated with rubber, with paper, or with cambric, as desired. Ordinarily A.S.W. 30% rubber compound is used. The method of construction is practically the same in every case.

Construction—Standard constructions are illustrated. The wires making up the copper conductor are tinned and insulated with rubber of required thickness and quality. Then a rubber filled tape is applied.

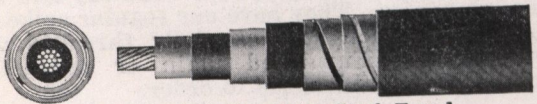
In the case of three-conductor and two-conductor or duplex (round), each conductor is insulated with rubber, taped, and the conductors are then twisted together with jute fillers. Tape is then wrapped around the group.

In the case of the twin (flat), there are no jute fillers or tape over all. Twin cable is furnished when two conductors are required, unless two-conductor round cable is specified.

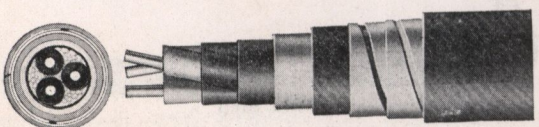
A lead sheath is placed over the tape to exclude moisture. An asphalt saturated jute covering is applied over the lead sheath, acting as a cushion between the armor and lead, thus protecting the lead from mechanical injury by the flat steel tapes or special Armorlokt tape, and preventing an accumulation of moisture between the lead and armor.

A steel armor consisting of either two flat steel tapes or one Armorlokt tape is then applied. The flat tapes are wound in the same direction, the outer tape overlapping the line of separation between the spirals of the inner tape, thus giving flexibility, while preventing any opening in the armor when the cable is bent, which might possibly allow an injury to the lead sheath and insulation below. This also applies to our Armorlokt tape, which is interlocked. Galvanized tapes can be furnished if required.

An asphalt saturated jute covering is placed outside of the steel armor to protect it from corrosive action of moisture or any chemicals which may be in the soil, and from electrolysis.



Single Conductor, Flat Steel Taped



Three-Conductor, Flat Steel Taped



Single Conductor, Armorlokt Tape

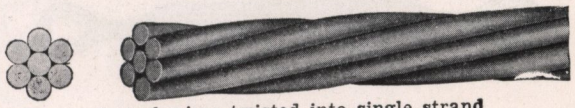
Parkway and Suburban Cables

Uses—

Street lighting
Railroad yard lighting
In coal mines
Industrial plants
Park and ground lighting
Submarine service under lakes and rivers where tensile strength is not looked for
Railway signal service
And many others

Perfected Steel Strand

Used for guying telephone, telegraph and overhead transmission line poles and smoke stacks; for supporting telephone, signal and transmission cables in overhead work and trolley wire in catenary construction; also as a ground wire in protecting transmission lines from lightning.



7 steel wires twisted into single strand
Galvanized or extra galvanized

STANDARD STRANDS

Diam., in.	Size of wire used, in.	Weight per 1000 ft., lb.	Strength, lb.
7 Steel Wires Twisted Into Single Strand			
3/4	.250	1200	16,700
5/8	.207	813	11,600
9/16	.188	671	9,600
1/2	.165	517	7,400
7/16	.145	399	5,700
3/8	.125	296	4,250
5/16	.104	205	3,200
9/32	.093	164	2,570
1/4	.080	121	1,900
7/32	.072	98.3	1,540
3/16	.062	72.9	1,150
5/32	.052	51.3	870
9/64	.047	40	700
1/8	.041	31.8	540
7/64	.035	25	450
5/32	.031	20	400
5/64	.026	13	300
19 Steel Wires Twisted Into Single Strand			
7/8	.200	2,073	28,700
3/4	.175	1,581	21,900
5/8	.150	1,155	16,000
9/16	.125	796	11,000
1/2	.110	637	9,640
	.100	504	7,620

Extra Galvanized Special Strands—Three special grades which meet all requirements for durability, strength, toughness and light weight—Siemens-Martin Strand, High Strength Strand, and Extra High Strength Strand.

All three grades are composed of 7 or 19 wires each, and have a very heavy coating of galvanizing, insuring long life.

Besides these three standard grades, we are in position to make strands to the most exacting specifications.

SPECIAL STRANDS, EXTRA GALVANIZED

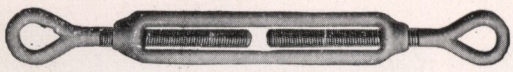
Diam., in.	Tensile strength in lb.					
	Siemens—Made in Strand		High Strength Strand		Extra High Strength Strand	
	7 wire	19 wire	7 wire	19 wire	7 wire	19 wire
*1	.....	46,200	.....	71,900	.....	107,200
7/8	.....	35,900	.....	55,800	.....	79,700
3/4	.....	26,200	.....	40,800	.....	58,300
5/8	19,100	18,100	29,600	28,100	42,400	40,200
9/16	15,700	16,100	24,500	24,100	35,000	33,700
1/2	12,100	12,700	18,800	19,100	26,900	26,700
7/16	9,350	.....	14,500	.....	20,800	.....
3/8	6,950	.....	10,800	.....	15,400	.....
5/16	5,350	.....	8,000	.....	11,200	.....
9/32	4,250	.....	6,400	.....	8,950	.....
1/4	3,150	.....	4,750	.....	6,650	.....
3/16	1,900	.....	2,850	.....	3,990	.....
1/8	910	.....	1,330	.....	1,830	.....

* 1-in. diameter is composed of 37 wires.

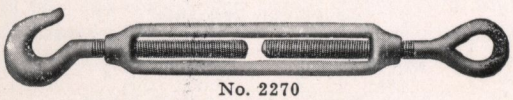
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Turnbuckles

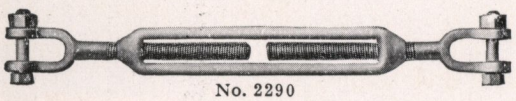
Used for taking up slack and maintaining a uniform tension on guy ropes, etc. Furnished with the styles of ends illustrated. From the strengths and working loads given in the table, the proper size is readily selected, which in every case should be equal to the strength of the guy rope or strand as given in the description of "Galvanized Steel Wire Strand." Where greater take-up than given in the fourth column is required, two turnbuckles may be used. Always state styles of ends wanted. No. 228 is most commonly used.



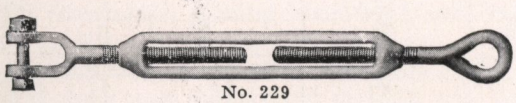
No. 228



No. 2270



No. 2290



No. 229

Turnbuckles

Size turnbuckles and outside diameter of thread, in.	Approx. breaking strength, lb.	Recommended working load, lb.	Take-up length in the clear between heads, in.	Length of buckle extended, in.	Length pull to when extended, in.	Approx. weight each, lb.
½	6250	930	6	7½	16½	1.87
9/16	8100	1250	7	9	18¼	3.00
⅝	10000	1620	8¼	10½	23⅛	3.69
¾	15000	2000	9	11¾	24¼	5.81
⅞	21000	3000	10	12¾	27½	8.81
1	27500	4200	11	14	30½	12.56
1⅛	34500	5500	12	15½	33	17.00
1¼	44500	6900	13	16¾	39	25.00
1⅜	52500	8900	14	18	40	36.00
1½	64500	10500	15	19½	50	40.00

Galvanized Oval Thimbles

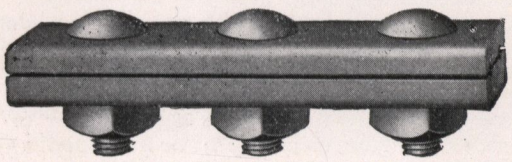
These oval thimbles are heavily coated with zinc and are made in regular, extra large and extra heavy constructions in sizes ¼ to 2 in. They give good service and are extra strong.



Galvanized Oval Thimble

Galvanized 3-bolt Strand Clamp

This clamp is known as the standard A. T. & T. Co. hot galvanized rolled steel strand clamp or guy clamp. Made from open hearth bar steel. It will hold any size of strand from ¼ to ½ in. diameter.

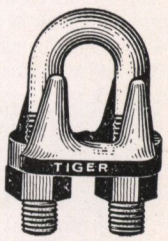


Galvanized Three-bolt Strand Clamp

Tiger Wire Rope Clips

Universally used on wire ropes for all purposes except as permanent fastenings on hoisting rope. Light, durable, easily applied, easily taken off and require no special skill. No less than 2 clips should be used, and preferably 4 to 6, particularly on large sizes of rope. Regularly made of steel, cold galvanized. Hot galvanized finish (Western Union specifications) can also be furnished.

These clips are drop forged.



Tiger Clip

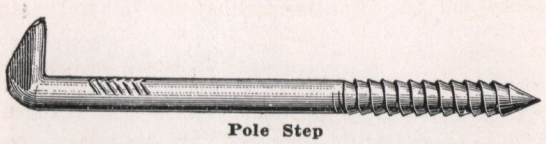
TIGER WIRE ROPE CLIPS

Size clip corresponding to rope diameter, in.	Size of U-bolts (standard), in.	Approximate weight per 100 clips, lb.	Size clip corresponding to rope diameter, in.	Size of U-bolts (standard), in.	Approximate weight per 100 clips, lb.
3	1¼	2335	1⅛	¾	350
2¾	1¼	2100	1	¾	288
2½	1⅛	1570	⅞	¾	240
2¼	1⅛	1330	¾	⅝	140
2	1	1015	⅝	9/16	93
1¾	1	800	½	½	70
1⅝	⅞	680	7/16	½	65
1½	⅞	570	⅜	⅜	38
1⅜	⅞	510	5/16	⅜	32
1¼	⅞	450	¼	⅜	29

High Strength Bronze Tiger Wire Rope Clips—For use where the life of galvanized steel clips is short, due to electrolysis or corrosion. Much stronger than copper clips, and because of their greater hardness, are much more dependable. Their strength is approximately 75% that of steel, so that 4 bronze clips may be used in place of 3 steel clips.

Pole Steps

For use of electric light, street railway and telephone companies. They have our regular spike and button heads, each step carefully threaded with screw thread. Furnished plain or galvanized. Special shapes and lengths to order.



Pole Step

Over all Size, in.	Weight per 100 pole steps, lb.		Over all Size, in.	Weight per 100 pole steps. lb.	
	Plain	Galvanized		Plain	Galvanized
8 x⅝	73	75	8½x9/16	58	61
9 x⅝	78	81	9 x9/16	62	65
10 x⅝	85	88	10½x9/16	71	74
10½x⅝	89	93	9 x½	51	54

A keg of pole steps weighs about 200 lb.

DETROIT INSULATED WIRE CO.

DIVISION OF GENERAL CABLE CORPORATION

Manufacturers of Electrical Wires and Cables

Factory and Executive Offices

DETROIT, MICH.

Warehouses

CHICAGO, ILL.....29 S. Jefferson St.
MINNEAPOLIS, MINN.....106 Third Avenue N.
PHILADELPHIA, PA.....1207 Race St.
SAN FRANCISCO, CALIF.....871 Folsom St.
LOS ANGELES, CALIF.....110 North Alameda St.
ST. LOUIS, MO.....1911 Pine St.



Detroit Wires and Cables—A Quarter Century of Experience and Service

Antenna Wire
Automobile Wire and Cable
Extra Flexible Wire and Cable
Flexible Wire and Cable
Lamp Cord, Cotton
Lamp Cord, "Rayon"
Lead Covered Cable
Mining Machine Cable
Power Cable (Solid or Stranded)
Rubber Covered Wire:
Code
Intermediate
30%
Special Flexible Cords
Special Wires and Cables
Steel Taped Parkway Cable
Telephone Wire
Flexible Metallic Conduit
"Uniduct" Armored Cable

Detroit Rubber Insulated Wires and Cables

Detroit rubber covered wires and cables are manufactured in three standard grades of insulation—National Electric Code, intermediate or 25%, and 30%.

Detroit 30%—Insulation compounded from carefully selected materials and guaranteed to contain not less than 30%, by weight, of finest quality unused Hevea rubber and no reclaimed rubber. Recommended for use where permanency and superior dielectric qualities are essential.

Detroit Intermediate—An insulation containing not less than 25% rubber which provides a higher dielectric strength and greater ageing properties than can be secured by the use of standard code.

Detroit National Electrical Code—An insulation which exceeds all requirements of the National Electrical Code standard by a wide margin and which is manufactured with the same care as our higher grade insulations.

Detroit Rubber Insulated and Lead Encased Cables

Detroit lead encased cables are supplied in either code, intermediate or 30% grade of insulation. The lead sheath is applied under several tons of hydraulic pressure in such a manner as to prevent compression of the insulation and at the same time to produce a close fitting, dense, ductile sheath. Commercially pure, new lead is used.

Detroit Automobile Wires and Cables

Automobile lighting and ignition wires and starter cables are supplied according to customers' specifications with either rubber or varnished cambric tape insulation.

Detroit Flexible Cords and Lamp Cords

Manufactured in accordance with the National Electrical Code and supplied in standard construction with rayon, glazed cotton or weatherproof finish as required.

Detroit Parkway Cable

Detroit lead encased, steel taped parkway cable is manufactured in standard and special constructions for 600 to 2500, 3500 and 5000-volt service.

Maximum protection is afforded by the two steel tapes and the double covering of thoroughly waterproof jute.

Anaconda Wire & Cable Company

General Sales Office
25 Broadway, New York

ANACONDA
from mine to consumer
REG. U.S. PAT. OFF.

Chicago Sales Office
111 West Washington St.

Wire Mills:
Pawtucket, R. I., Hastings-on-Hudson, N. Y., Muskegon, Mich.
Anderson, Ind., Marion, Ind., Sycamore, Ill., Kenosha, Wis., Great Falls, Mont.

Electrical Wire and Cable Products manufactured by the Ansonia, Conn., Waterbury, Conn., and Detroit, Mich., mills of The American Brass Company, an affiliated company, are sold exclusively by Anaconda Wire & Cable Company

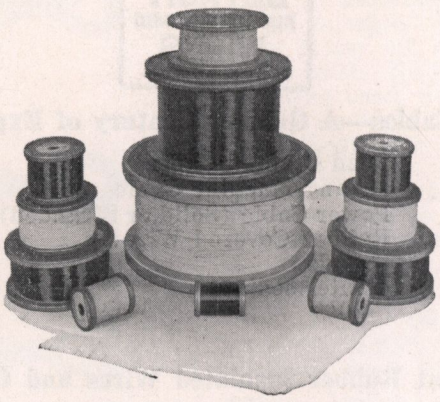
Anaconda Magnet Wire

Anaconda Magnet Wire, in the types and sizes listed in the accompanying table, is manufactured to exceed A.S.T.M. standards.

The conductors are uniformly and thoroughly annealed "dead soft" in electrically heated and controlled ovens, and have unusually high dielectric strength and high conductivity.

All insulating yarns are wound to assure the required number of ends, uniform insulating properties and trouble-free operating service. A firm, even, serving of the insulating fabric guarantees a smooth, uniform and perfect finished job. Outside diameters are always as small as practicable to insure the proper balance between dielectric strength and precision.

Rigid inspections at every step from purchase of raw material to final shipment, insure wire unexcelled in physical, chemical and electrical qualities.



Special Magnet Wire—Anaconda also makes magnet wire for special applications in accordance with customers' specifications or requirements.

Cotton-covered Magnet Wire can be furnished with a colored tracer (standard tracer colors are red and green) or in solid colors.

Standard colors other than white for silk covered wires are red and green—additional colors furnished when size of order justifies.

Cotton-Silk Magnet Wire (Cotsilk) can be furnished in colors; it consists of an outer wrapping of silk over a wrapping of cotton, or vice versa, applied to bare or enameled wire.

ANACONDA MAGNET WIRE

Plain enameled round wire	Single cotton enameled round wire	Double cotton enameled round wire	Single silk enameled round wire	Double silk enameled round wire	Single cotton covered round wire	Double cotton covered			Single silk covered round wire	Double silk covered round wire
						Round wire	Rectangular wire	Square wire		
Size Limits (B. & S. Gauges Inclusive)										
8 to 42	8 to 38	8 to 36	16 to 38	16 to 38	4/0 to 36	4/0 to 38	.064 to .460 in. wide .020 to .410 in. thick	4/0 to 14	16 to 38	16 to 38
Stocks Carried in the Following Sizes (B. & S. Gauges Inclusive)										
12 to 42	12 to 36	12 to 36	16 to 36	.....	10 to 36	10 to 36	.....	.....	16 to 36	16 to 36

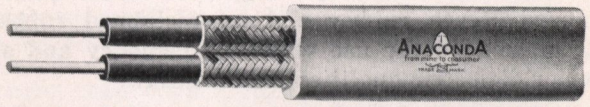


Anaconda Rubber-Insulated Braided Wire and Cable for General Light and Power Service

Solid and Stranded Single Conductors—Single and Double Braid—For 600 volts maximum working pressure. Smaller sizes approved for open or conduit wiring on the surface or between walls or ceilings; larger sizes approved for electric lighting mains, and power transmission lines. Consists of a soft drawn, thoroughly annealed, tinned, solid or stranded copper conductor having a conductivity of not less than 98%, insulated with better-than-Underwriters'-code rubber compound, covered with one or two closely-woven cotton braids (or a tape and a braid), the outer braid saturated with paraffin. The paraffin finish makes Anaconda wire easier to pull through conduit and cleaner to handle. Made in the following sizes:

Single and double braid, solid and stranded—14 to 8 B. & S. gauge. Double braid, stranded—14 to 1,000,000 circular mils.

Parallel Conductor—For 600 volts maximum working pressure. Approved by Underwriters for wiring interior circuits in rigid conduit or metal molding. Consists of two thoroughly annealed, tinned, solid or stranded copper conductors, individually insulated with better-than-Underwriters'-code compound and individually covered with a closely-woven saturated cotton braid. The two conductors, one white and one black, are then laid parallel and a closely-woven cotton braid, saturated with paraffin, is applied over all. Sizes—14 to 8 B. & S. gauge.



Anaconda Lead-sheathed Rubber-insulated Wire and Cable

For 600 volts maximum working pressure, in underground ducts, tunnels or other places where moisture is encountered.

Consists of one, two parallel, or three twisted copper conductors (thoroughly annealed and tinned), conductors individually insulated with better-than-Underwriters'-code compound and individually covered with a closely-woven cotton braid to show polarity, and a sheath of commercially fine lead applied over all.

Made in the following sizes:

Solid conductors, single and duplex parallel and 3-conductor twisted 14 to 4 B. & S. gauge.

Stranded conductors—single, duplex, parallel and 3-conductor twisted 14 to 4/0 B. & S. gauge. Single-conductor only to 1,000,000 circular mils.



Anaconda Fixture Wire

Consists of a single thoroughly annealed, tinned, solid or stranded copper conductor, insulated with better-than-Underwriters'-code rubber compound, covered with a closely-woven cotton braid thoroughly saturated with paraffin. Colors—black, white.

Sizes—18 and 16 B. & S. gauge, with rubber insulation 1/32 or 1/64 in. thick.

Anaconda Type FF Flexible Fixture Wire—Consists of a thoroughly annealed, cotton wrapped stranded copper conductor, insulated with better-than-Underwriters'-code rubber compound and covered with a closely-woven soft or glazed cotton in brush brass, brown, white, gray, or covered with Rayon in brush brass, old gold, olive green, brown, black, maroon.

Sizes—18 and 16 B. & S. gauge, with rubber insulation 1/32 or 1/64 in. thick.



Anaconda Type C Flexible Lamp Cord

For pendant or portable use in dry places and where it will not be subjected to severe usage. Consists of two rubber-insulated flexible copper conductors, individually covered with closely-woven dry cotton or rayon braid, and twisted together.

Stock colors of cotton braided cords are green-and-yellow, olive green, black, and white; rayon braided cords stocked in olive green. Sizes—18, 16 and 14 B. & S. gauge.



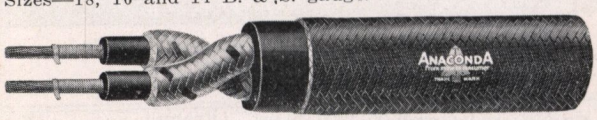
Anaconda Type PO Parallel Lamp Cord

For portable use in dry places and where it will not be subjected to severe usage.

Consists of two thoroughly annealed, cotton wound, flexible copper conductors, individually insulated with better-than-Underwriters'-code rubber compound and covered with a cotton braid; the conductors are then laid parallel and a closely-woven dry cotton or rayon braid applied over all.

Stock colors of cotton braided cords are black, white. Rayon braided cords stocked in old brass, old gold, brown, white, black, maroon, pearl gray, olive green.

Sizes—18, 16 and 14 B. & S. gauge.



Anaconda Type P Reinforced Cord

For pendant or portable use in dry places where it will not be subjected to severe usage.

Consists of two thoroughly annealed, cotton-wound, flexible copper conductors, individually insulated with better-than-Underwriters'-code rubber compound and a closely-woven cotton braid; the conductors are then twisted and covered overall with a reinforcing wall of rubber and an outer braid of closely-woven soft or glazed dry cotton yarn.

Sizes—18, 16 and 14 B. & S. gauge.

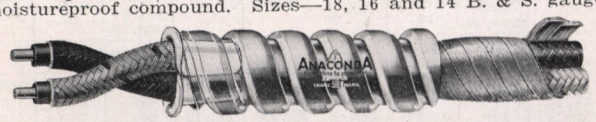
Type PWP Reinforced Cord—Same as Type P except that the outer braid is weatherproofed for use in damp places.



Anaconda Type K Heavy-duty Braided Cord

For pendant or portable use in damp places and where it will be subjected to severe usage.

Consists of two thoroughly annealed, cotton-wrapped flexible copper conductors individually insulated with better-than-Underwriters'-code rubber compound and covered with a saturated cotton braid; conductors are then twisted, filled with saturated jute to make round and covered with 2 cotton braids (or a tape and a braid), the outer braid being saturated with moistureproof compound. Sizes—18, 16 and 14 B. & S. gauge.



Anaconda ABC Flexible Armored Conductor

Consists of 1, 2 or 3 thoroughly annealed, tinned, solid or stranded copper conductors individually insulated with better-than-Underwriters'-code rubber compound and covered with a closely-woven saturated cotton braid (multiple conductors being twisted), and a saturated layer of Kraft paper applied over all, over which is applied the flexible metallic armor of the same construction as Anaconda Flexible Metallic Conduit described below. To each coil is attached a bag of Anti-Short Bushings. Distinguishing braids on each conductor for polarity identification.

Sizes: 2 and 3-conductor solid—14, 12 and 10 B. & S. gauge; 2 and 3-conductor stranded—8, 6 and 4 B. & S. gauge; single-conductor solid—14 and 6 B. & S. gauge; single-conductor stranded—10 to 1 B. & S. gauge; 4-conductor solid—14 and 12 B. & S. gauge. Also made in Nos. 18 and 16 B. & S. gauge two-conductor lamp cord.

Anaconda Flexible Armored Conductors With Lead Sheath

For use in damp places. Has a sheath of lead between Kraft paper and the armor. Sizes: 2 and 3 conductor solid—14, 12 and 10 B. & S. gauge; 2 and 3-conductor stranded—8 and 6 B. & S. gauge; 3-conductor stranded also size 4, single-conductor 14 solid, 8 and 6 stranded.

Anaconda Flexible Metallic Conduit

An extremely flexible conduit with an especially smooth interior surface that makes fishing of wires easy. Has strong interlocking joints that insure against breakage and a smooth flat exterior—an advantage when pulling around corners of joists, etc. The strip steel used is thoroughly annealed and galvanized.

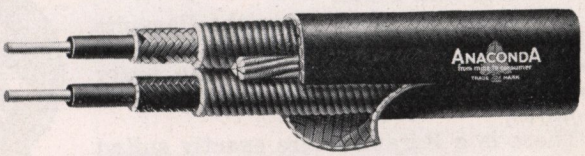
Inside diameters—5/16 to 2½ in.



Duraduct Non-Metallic Flexible Conduit—Fast-fishing Single-wall Loom

A tough, closely-woven, seamless, non-collapsible conduit—the original single-wall loom with the roller bearing wireway. Its slippery inside finish makes fishing of wires easy and the new sleek outer finish makes it clean to handle. The stiff insulating fiber is interwoven—no separate lining to become loose, break or obstruct the passage of wires. Cuts clean; extremely flexible; withstands severe abuse; cannot clog; cuts labor costs.

Nominal inside diameters—7/32 to 2¼ in.

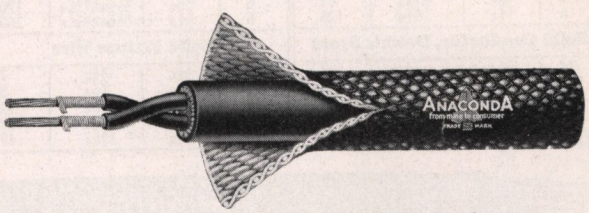


Durax Non-Metallic Sheathed Cable

A sturdy, durable cable for concealed or open work in locations that are reasonably dry, where the cable will not be exposed to undue injury or abuse, and where the potential between conductors does not exceed 300 volts. Because of its superior construction, ease of stripping and installing and plain marking for polarity, it is the popular choice of those who demand the best in non-metallic-sheathed cable.

Consists of 2 or 3 soft drawn thoroughly annealed, heavily tinned, solid copper conductors, each conductor being individually insulated with better-than-Underwriters'-code rubber compound, covered with a saturated braid, over which is applied a tough paper twine. The conductors are then laid parallel in the case of 2-conductor cables, or twisted in 3-conductor cables, filled with jute, and covered over all with a tough, closely-woven braid that is thoroughly saturated with fire-resisting and moisture-resisting compounds.

Sizes—14, 12, 10, 8, 6 and 4 B. & S. gauges.



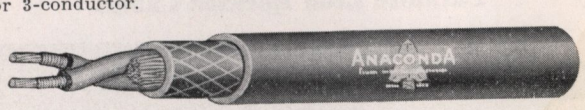
Duracord Heavy-duty Portable Cord

The tough outer covering of thick, heavy, long-fiber cotton on this cord, woven like a fire hose (not braided) successfully withstands abrasion, pinching, stretching, strains, dragging and crushing imposed under heavy duty. This cover has the Anaconda green lacquer finish that makes the cord oil and gasoline resisting, also waterproof.

Single-conductor cords consist of a thoroughly annealed, tinned, flexible copper conductor insulated with 30% rubber compound which is protected by the heavy-duty woven cover described above. Sizes—4, 3, 2, 1, 1/0, 2/0 and 4/0 B. & S. gauge.

2-conductor parallel cords consist of two rubber-insulated and soft cotton braided tinned flexible copper conductors laid parallel and covered overall with the heavy-duty outer cover described above. Sizes—4, 3 and 2 B. & S. gauge.

2 and 3-conductor twisted cords consist of 2 or 3 thoroughly annealed, flexible copper conductors individually wound with fine cotton, insulated with better-than-Underwriters'-code rubber compound and covered with a soft cotton braid. In sizes 18 to 10 inclusive, the conductors are then twisted and covered with a rubber compound to make round, over which is applied the outer protective cover described above. In sizes 8 and 6, the conductors are twisted with jute and then covered with tape to make round, over which is applied the outer protective cover. Sizes—18 to 6 for 2 conductor; 16 to 6 for 3-conductor.



Security Flex Hard Service Cord

An all-rubber portable cord for hard service, made to Underwriters' Specifications for Types S and SJ.

Two, three, and four-conductor cords consist of thoroughly annealed flexible copper conductors, individually bound with fine cotton, insulated with 30% Para rubber, twisted with jute, and bound with a cross-webbing of seine twine; and overall, a heavy belt of tough, resilient, abrasion-proof, oil-resisting rubber, producing a flexible cord of rugged stability and great strength.

Sizes No. 18 to No. 6 in two-conductor, No. 18 to No. 8 in three-conductor, and No. 18 to No. 10 in four-conductor.

Indiana Rubber and Insulated Wire Co.

Factory and General Offices

JONESBORO, IND.

Sales Offices

CHICAGO, ILL., 140 S. Dearborn St. KANSAS CITY, MO., 208 Baltimore Bldg.

LOS ANGELES, CAL., 400 Hibernian Bldg.

Paranite Rubber Covered Wires, Cables and Cords

Over a period of 38 years the Paranite Line has demonstrated in laboratory and service tests that there goes into every foot of our conductors *"more than code requires."*

There is a Paranite wire exactly suited to every application—telephone, telegraph, fire alarm, household appliances, lighting and heating systems, portable tools and industrial machinery of every type.

The tremendous stocks we carry insure most rapid service to the purchaser, and the completeness of the line makes it possible to specify Paranite exclusively with no danger of non-uniformity, expensive delays or troublesome adjustments.



Paranite Solid Conductor, Single Braid

PARANITE SOLID WIRES

B. & S. size	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
Solid Conductor, Single Braid			
14	3/64	13/64	32
12	3/64	7/32	43
10	3/64	15/64	58
8	3/64	17/64	80
6	1/16	5/16	128
Solid Conductor, Double Braid			
14	3/64	1/4	37
12	3/64	9/32	48
10	3/64	19/64	64
8	3/64	11/32	86
6	1/16	25/64	135

B. & S. size	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
Duplex Solid, Double Braid			
14	3/64	8/32x1 5/32	73
12	3/64	17/64x31/64	94
10	3/64	19/64x33/64	125
8	3/64	21/64x37/64	170
6	1/16	25/64x45/64	260
Solid Fixture Wire			
20	1/64	3/32	7
18	1/64	7/64	8
18	1/32	9/64	12
16	1/64	8/64	12
16	1/32	10/64	17

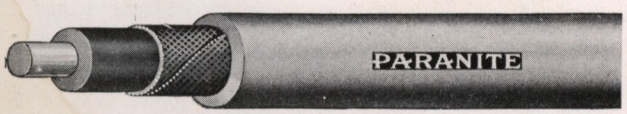


PARANITE FLEXIBLE SWITCHBOARD CABLES

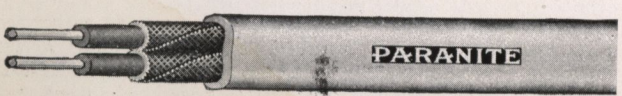
B. & S. size	Stranding	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
	Single Braid			
14	13-25	3/64	9/32	38
12	21-25	3/64	10/32	48
10	21-23	3/64	23/64	65
8	49-25	3/64	25/64	94
6	49-23	1/16	14/32	149
4	49-21	1/16	17/32	209
3	133-24	1/16	37/64	252
2	133-23	1/16	20/32	306
1	133-22	5/64	45/64	391
0	133-21	5/64	24/32	497
00	133-20	5/64	26/32	613
000	133-19	5/64	57/64	747
0000	133-18	5/64	61/64	908

B. & S. size	Stranding	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
	Double Braid			
13-25	3/64	29/64	40
21-25	3/64	11/32	56
21-23	3/64	25/64	74
49-25	3/64	27/64	107
49-23	1/16	15/32	166
49-21	1/16	9/16	230
133-24	1/16	39/64	275
133-23	1/16	21/32	333
133-22	5/64	47/64	422
133-21	5/64	25/32	532
133-20	5/64	27/32	654
133-19	5/64	59/64	790
133-18	5/64	63/64	951

Paranite Lead Encased Cables



Single Conductor, Solid



Duplex Conductors, Solid



Paranite Stranded Conductor, Single Braid

PARANITE STRANDED CABLES

B. & S. size	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
Stranded Conductor, Single Braid			
14	3/64	15/64	36
12	3/64	17/64	48
10	3/64	19/64	65
8	3/64	21/64	90
6	1/16	3/8	141
Stranded Conductor, Double Braid			
14	3/64	19/64	40
12	3/64	21/64	55
10	3/64	3/8	72
8	3/64	13/32	103
6	1/16	29/64	156
4	1/16	17/32	227
3	1/16	9/16	272
2	1/16	39/64	329
1	5/64	43/64	417
0	5/64	47/64	526

B. & S. size	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
Stranded Conductor, Double Braid (Continued)			
00	5/64	13/16	647
000	5/64	7/8	782
0000	5/64	15/16	942
Duplex Stranded, Double Braid			
14	3/64	17/64x29/64	80
12	3/64	18/64x32/64	110
10	3/64	20/64x35/64	140
8	3/64	22/64x39/64	207
6	1/16	26/64x45/64	310
Paranite Fixture Wire, Stranded			
20	1/64	5/64	8
18	1/64	8/64	9
18	1/32	10/64	13
16	1/64	9/64	13
16	1/32	10/64	18

PARANITE CIRCULAR MIL CABLES

Circ. Mils	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
	Stranded		
250,000	3/32	.89	1071
300,000	3/32	.94	1250
350,000	3/32	.99	1431
400,000	3/32	1.04	1608
450,000	3/32	1.09	1791
500,000	3/32	1.13	1959
600,000	7/64	1.24	2355
700,000	7/64	1.31	2709
750,000	7/64	1.34	2881
800,000	7/64	1.38	3058
900,000	7/64	1.44	3404
1,000,000	7/64	1.50	3754
1,250,000	1/32	1.67	4678
1,500,000	1/32	1.79	5539
1,750,000	1/32	1.90	6394
2,000,000	1/32	2.01	7246

Circ. Mils	Stranding	Rubber wall thickness, in.	Overall diam., in.	Wt., lb. per 1000 ft.
		Flexible Stranded		
250,000	399-22	3/32	63-64	1090
300,000	234-19	3/32	67-64	1265
350,000	271-19	3/32	70-64	1440
400,000	248-18	3/32	75-64	1650
450,000	349-19	3/32	77-64	1804
500,000	385-19	3/32	80-64	1958
600,000	369-18	7/64	89-64	2368
700,000	427-18	7/64	90-64	2706
750,000	461-18	7/64	97-64	2914
800,000	624-19	7/64	98-64	3129
900,000	698-19	7/64	104-64	3438
1,000,000	615-18	7/64	107-64	3712
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....



Style C

Paranite Heater Cords

B. & S. size	Stranding	Rubber wall thickness, in.	Wt., lb. per 1,000 ft.
18	No. 34	1/32	35
16	No. 34	1/32	53
14	No. 34	1/32	69
12	No. 34	1/32	105
10	No. 34	1/32	130

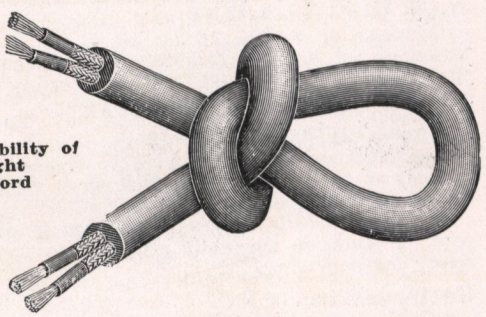
Dreadnaught Portable Cords and Cables

Dreadnaught cable meets the demand for a heavy duty flexible cable which will give a longer and more satisfactory life on the job. The extreme flexibility of Dreadnaught is secured by the high grade rubber and very fine wires used in its construction. There is no braid on Dreadnaught to absorb dirt, grease, lint, etc., and it will not kink or tangle at any time.

The copper conductors of Dreadnaught cable vary in number according to the size of the cord; however, all conductors are of flexible bare copper wires, stranded and cotton wrapped, covered by a 40% highest quality rubber insulation. The two conductors are twisted with cotton cord fillers and accordingly add greatly to the tensile strength. This is then covered with a 60% high grade rubber.

Dreadnaught cord is especially recommended for use with all power-driven tools and equipment which are either stationary or moved from place to place.

The use of Dreadnaught cable gives unusual freedom from repairs and replacements and will deliver current continuously, no matter how tough the job. Dreadnaught is foolproof and kinkproof—give it a tough job and it will deliver 100%. There is a size to fit all needs. See table.



Showing Flexibility of Dreadnaught Portable Cord

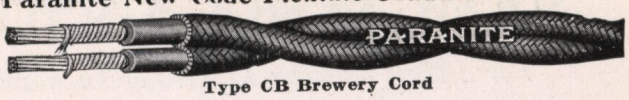
DREADNAUGHT PORTABLE CORDS AND CABLES

B. & S. size	Stranding	Diam. over rubber, in.			Approx. shipp. wt., lb. per 1000 ft.		
		Two-cond.	Three-cond.	Four-cond.	Two-cond.	Three-cond.	Four-cond.
Dreadnaught Type "S" Portable Cords							
18	41 No. 34.	.400	.421	.500	90	95	125
16	66 No. 34.	.421	.450	.562	100	125	175
14	103 No. 34.	.562	.625	.725	150	190	260
12	166 No. 34.	.625	.675	.800	200	240	335
10	259 No. 34.	.675	.800	.900	250	320	450
8	49 No. 25.	.719	.900	1.000	285	370	530
Dreadnaught Junior Type "SJ" Portable Cords							
18	41 No. 34.	.300	....	....	50	....	....
16	66 No. 34.	.354	....	....	65	....	....
Dreadnaught Multiple-Conductor Cables							
6	49 No. 23	.906	.953	1.031	575	690	830
6	133 No. 27.	.906	.953	1.031	575	690	830
4	49 No. 21.	1.063	1.125	1.219	840	1025	1250
4	133 No. 25.	1.063	1.125	1.219	840	1025	1250
3	133 No. 24.	1.125	1.188	1.297	975	1190	1470
2	133 No. 23.	1.188	1.250	1.375	1130	1385	1730
1	133 No. 22.	1.313	1.391	1.531	1395	1735	2160
0	259 No. 24	1.438	1.563	1.703	1650	2085	2575
00	259 No. 23.	1.531	1.656	1.813	1965	2505	3105
000	259 No. 22.	1.656	1.781	1.953	2305	2925	3630
0000	259 No. 21.	1.781	1.922	2.109	2720	3485	4335

Dreadnaught Single-Conductor Locomotive, Switchboard, Welding Machine and Motor Lead Cables

B.& S. size	Stranding	Diam. over rubber, in.	Approx. shipp. wt., lb. per 1000 ft.	B.&S. size	Stranding	Diam. over rubber, in.	Approx. shipp. wt., lb. per 1000 ft.
14	41 No. 30.	.300	75	3	49 No. 20.	.625	350
12	66 No. 30.	.300	95	3	133 No. 24.	.625	350
10	103 No. 30.	.354	130	2	133 No. 23.	.656	405
8	49 No. 25.	.422	140	2	259 No. 26.	.656	405
6	49 No. 23.	.484	190	1	133 No. 22.	.719	495
6	133 No. 27.	.484	190	1	259 No. 25.	.719	495
5	49 No. 22.	.516	225	0	259 No. 24.	.766	565
5	133 No. 26.	.516	225	00	259 No. 23.	.813	685
4	49 No. 21.	.563	280	000	259 No. 22.	.859	765
4	133 No. 25.	.563	280	0000	259 No. 21.	.922	950
Dreadnaught Parallel Flat Duplex Mining Machine Cables							
6	49 No. 23.	1.0x.625	510	3	49 No. 20.	1.1x.675	725
6	133 No. 27.	1.0x.625	510	3	133 No. 24	1.1x.675	725
4	49 No. 21.	1.0x.625	600	2	133 No. 23.	1.2x.750	875
4	133 No. 25.	1.0x.625	600	2	259 No. 26.	1.2x.750	875

Paranite New Code Flexible Conductors



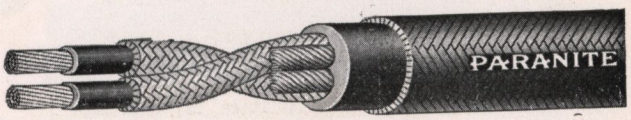
Type CB Brewery Cord



Type CC Canvasite Cord



Type PKWP Packing House Cord



Deck Cable

PARANITE NEW CODE FLEXIBLE CONDUCTORS

B. & S. size	No. of Cond.	Rubber wall thickness, in.	Wt., lb. per 1000 ft.
Brewery Cord			
18	2	1/32	30
16	2	1/32	40
14	2	3/64	67
12	2	3/64	90
10	2	3/64	120
Canvasite Cord			
18	2	1/32	53
16	2	1/32	68
14	2	3/64	83
12	2	3/64	103
10	2	3/64	170
Packing House Cord			
18	2	1/32	55
16	2	1/32	70
14	2	3/64	120
12	2	3/64	150
10	2	3/64	190
Deck Cable			
18	2	1/32	90
16	2	1/32	100
14	2	3/64	130
12	2	3/64	170
10	2	3/64	220

B. & S. size	No. of cond.	Rubber wall thickness, in.	Wt., lb. per 1000 ft.
Theatre or Stage Cable			
14	2	3/64	120
12	2	3/64	150
10	2	3/64	190
8	2	3/64	255
6	2	1/16	365
4	2	1/16	525
3	2	1/16	625
2	2	1/16	750
Border Light Cable			
12	3	3/64	250
12	4	3/64	310
12	5	3/64	385
12	6	3/64	440
12	8	3/64	580
12	10	3/64	710
14	3	3/64	180
14	4	3/64	240
14	5	3/64	300
14	6	3/64	375
14	8	3/64	500
14	10	3/64	620



Type "C" Twisted Lamp Cord

PARANITE LAMP CORDS

B. & S. size	Rubber wall thickness, in.	Stranding	Wt., lb. per 1000 ft.
Type "C" Glazed Cotton Twisted			
22	1/32	6-30	20
20	1/32	10-30	24
18	1/32	16-30	28
16	1/32	26-30	37
14	3/64	41-30	67
12	3/64	65-30	95
10	3/64	104-30	120
Type "C" Silk Covered			
22	1/32	6-30	18
20	1/32	10-30	22
18	1/32	16-30	26
16	1/32	26-30	34
14	3/64	41-30	64
12	3/64	65-30	90
10	3/64	104-30	115

B. & S. size	Rubber wall thickness, in.	Stranding	Wt., lb. per 1000 ft.
Type "PO" Glazed Cotton Covered			
22	1/32	6-30	22
20	1/32	10-30	27
18	1/32	16-30	31
16	1/32	26-30	40
14	3/64	41-30	72
12	3/64	65-30	100
10	3/64	104-30	127
Type "PO" Silk Covered			
22	1/32	6-30	21
20	1/32	10-30	25
18	1/32	16-30	29
16	1/32	26-30	38
14	3/64	41-30	69
12	3/64	65-30	97
10	3/64	104-30	123

Special Wire—Special Sizes

Should you be unable to find the class, size or type of wire, cable or cord for your special requirement in this Indiana Rubber and Insulated Wire Company's catalog, write or wire us for full information and prices covering your needs.

NEW YORK INSULATED WIRE CO.

For a Half Century Makers of Insulated Wires and Cables and Insulating Tapes

Main Offices

114 Liberty St., New York, N. Y.

Raven Core, Rubber-Insulated, Braided and Lead-Sheathed Wires and Cables

High standards prevail in the purity of materials and the uniformity of Raven Core wires and cables. Conductors are of pure copper, 98% conductivity, thoroughly annealed, smooth-surfaced and well tinned. All grades of rubber compounds are vulcanized under most accurately governed conditions of heat, pressure and processing time.

All grades carry the Underwriters' tag and label.

20% Code Grade—A dependable grade of rubber compound, slow-ageing, and exceeding N.E.C. requirements.

25% Intermediate Grade—Contains not less than 25% by weight, of new Hevea rubber. In high favor for quality installations such as in public buildings.

30% Para Grade—Made up of not less than 30%, by weight, of pure, live Hevea rubber. No reclaimed rubber whatever is used. It represents the finest standard for high voltages, unusual hazards and severest service.



Rubber-Insulated Single Conductor—Solid—Single Braid



Rubber-Insulated Single Conductor—Stranded—Double Braid

Other Grades—Special grades of insulation, for services not properly met by any of our standard grades, will be made to customers' specifications.

Outer Coverings—Outer coverings are single or double braids, also lead sheathing. Braids can be furnished in a broad range of colors and flameproofed if desired.

Styles and Sizes—Raven Core wires and cables are made in single, twin flat or multiple conductors, solid or stranded, in all standard sizes from No. 14 B. & S. gauge to 2,000,000 cir mils.

N. E. C. Fixture Wire

Consists of a No. 16 or 18 B. & S. gauge, solid, stranded or flexible conductor, insulated with rubber compound and finished with a closely-woven cotton braid in practically any desired color.

Free-Stripping Wire

The conductor in this wire is treated by a special process so that when the insulation is stripped, the conductor is in proper condition for soldering.

Supplied in coils or cut to specified lengths, the latter with or without the ends stripped to specified length, ready for soldering.

Battery Wire

Consists of a No. 12 B. & S. gauge tinned conductor, covered with a special rubber insulation so compounded that it will not be affected by the battery oil. Supplied in coils or cut lengths, with or without ends stripped to specified length.

Flexible Cord, and Lamp Cord

Consists of flexible stranded conductors, cotton wrapped, rubber insulated, single braided, and braided over all with glazed cotton or rayon.

"Grimshaw" and "Competition" Insulating Tapes

Friction Tapes—Made up of pure rubber compound (not tar or pitch) and high quality fabric sheeting. The compound is *calendered into*, and not merely spread upon, the sheeting, and will not dry out or unwrap.

These tapes are not loaded with mineral matter. Thus they give a maximum yardage per pound and are more economical than lower-priced inferior grades that are heavily weighted.

Rubber Tapes (Splicing Compounds)—Made of real rubber, highly elastic, and satisfactorily applied by the pressure of the hand alone. These tapes build up into real, permanent insulation; cut through a number of wrappings, and you will find that the insulation has become a solid mass.

These tapes being exceptionally elastic, can be stretched farther and are more economical than lower priced tapes.

Qualities and Standard Roll Sizes—Friction and rubber tapes are both made in "Grimshaw" and "Competition" grades. "Grimshaw" is the highest quality obtainable anywhere at any price. "Competition" is an unusually good quality, but costs about 20% less than "Grimshaw."

Standard rolls are ¾ in. wide and weigh about ½ lb. Each roll is wrapped first in tissue and then in tinfoil. Special rolls made in any width or length.

Special Tapes—We also make special tapes to sell at a low price to be used where conditions do not require the best quality.









JOHN A. ROEBLING'S SONS CO.

Manufacturers of Insulated Wires and Cables—Wire and Wire Rope

TRENTON, N. J.

WORKS: TRENTON, N. J.—ROEBLING, N. J.

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Roebling Electrical Wires and Cables

The Roebling products described herein are principally those of the Insulated Wire Division which is located in Trenton, N. J.

Complete stocks of all standard constructions of magnet, weatherproof, rubber-insulated and many other miscellaneous wires and cables are carried in the branch warehouses in order to assure our customers of prompt service.

Careful inspection and tests of raw materials and the checking of manufacturing operations result in the uniformly high quality that has made "Roebling" a mark of distinction.

Bare Copper Wire and Strand

Hard, medium or soft drawn, plain or tinned wire or strand is furnished in accordance with A.S.T.M. specifications. Solid sizes are 4/0 to 40 B.&S. gauge; strands are concentric or rope lay flexibles in sizes 2,000,000 circular mils to 22 B.&S. gauge.

Annealed square and rectangular copper is made in usual sizes.

NOMINAL PROPERTIES OF ROEBLING COPPER WIRE

Size, B.& S. gauge	List No.	Diam., mils	Area in cir. mils	Lb. per 1,000 ft.	Ft. per lb.	Ohms per 1,000 ft. 25° C. 77° F.	Ft. per ohm 25° C. 77° F.
0000	1500	460.0	211,600.	640.5	1.561	.0500	20,000.
000	1501	409.6	167,806.	507.9	1.969	.0630	15,873.
00	1502	364.8	133,000.	402.8	2.482	.0795	12,579.
0	1503	324.9	105,535.	319.5	3.130	.1002	9,980
1	1504	289.3	83,692.7	253.3	3.947	.1263	7,918.
2	1505	257.6	66,371.3	200.9	4.977	.1594	6,274.
3	1506	229.4	52,634.8	159.3	6.276	.2009	4,978.
4	1507	204.3	41,741.3	126.4	7.914	.2534	3,946.
5	1508	181.9	33,102.4	100.2	9.980	.3195	3,130.
6	1509	162.0	26,251.4	79.46	12.58	.4029	2,482.
7	1510	144.3	20,818.3	63.02	15.87	.5080	1,969.
8	1511	128.5	16,509.7	49.98	20.01	.6405	1,561.
9	1512	114.4	13,092.8	39.63	25.23	.8077	1,238.
10	1513	101.9	10,383.0	31.43	31.82	1.019	981.4
11	1514	90.74	8,234.11	24.92	40.12	1.285	778.2
12	1515	80.81	6,529.95	19.77	50.59	1.619	617.7
13	1516	71.96	5,178.48	15.68	63.79	2.042	489.7
14	1517	64.08	4,106.72	12.43	80.44	2.575	388.3
15	1518	57.07	3,256.78	9.858	101.4	3.247	308.0
16	1519	50.82	2,582.74	7.818	127.9	4.095	244.2
17	1520	45.26	2,048.21	6.200	161.3	5.164	193.6
18	1521	40.30	1,624.30	4.917	203.4	6.510	153.6
19	1522	35.89	1,288.13	3.899	256.5	8.209	121.8
20	1523	31.96	1,021.53	3.092	323.4	10.35	96.62
21	1524	28.46	810.114	2.452	407.8	13.05	76.63
22	1525	25.35	642.450	1.945	514.2	16.46	60.75
23	1526	22.57	509.486	1.542	648.4	20.76	48.17
24	1527	20.10	404.041	1.223	817.6	26.17	38.21
25	1528	17.90	320.419	.9699	1,031.	33.01	30.29
26	1529	15.94	254.104	.7692	1,300.	41.61	24.03
27	1530	14.20	201.513	.6100	1,639.	52.48	19.05
28	1531	12.64	159.807	.4837	2,067.	66.18	15.11
29	1532	11.26	126.733	.3836	2,607.	83.45	11.98
30	1533	10.03	100.504	.3042	3,287.	105.2	9.506
31	1534	8.928	79.7031	.2413	4,145.	132.7	7.536
32	1535	7.950	63.2075	.1913	5,227.	167.3	5.977
33	1536	7.080	50.1258	.1517	6,591.	211.0	4.739
34	1537	6.305	39.7516	.1203	8,311.	266.0	3.759
35	1538	5.615	31.5244	.09542	10,480.	335.5	2.981
36	1539	5.000	25.0000	.07568	13,214.	423.0	2.364
37	1540	4.453	19.8259	.06001	16,663.	533.4	1.875
38	1541	3.965	15.7227	.04759	21,012.	672.6	1.487
39	1542	3.531	12.4686	.03774	26,495.	848.1	1.179
40	1543	3.145	9.88807	.02993	33,410.	1070.	.9346

ROEBLING

COPPER STRANDS—CONCENTRIC LAY—BARE AND WEATHERPROOF

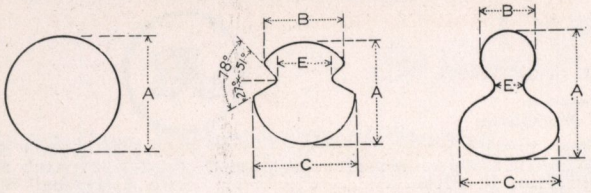
Size	Diam. strand, in.	1000 ft. *Lb.	1000 ft. *Resistance, ohms, 68° F. 20° C.	Wires in strand: Weatherpf. or bare List No.	Weatherpf. or bare No.	Weatherpf. or bare Diam. each wire, in.	Regular List No.	Regular No.	Regular Diam. each wire, in.
3,000,000 C.M.	1.988	9,263	.00353	1700	127	.1537	1700	127	.1537
2,750,000 C.M.	1.914	8,491	.00385	1701	127	.1472	1701	127	.1472
2,500,000 C.M.	1.824	7,719	.00423	1702	127	.1403	1702	127	.1403
2,250,000 C.M.	1.729	6,947	.00470	1703	127	.1331	1703	127	.1331
2,000,000 C.M.	1.632	6,175	.00529	1704	91	.1482	1779	127	.1255
1,950,000 C.M.	1.611	6,021	.00542	1705	91	.1464	1780	127	.1239
1,900,000 C.M.	1.590	5,866	.00557	1706	91	.1445	1781	127	.1223
1,850,000 C.M.	1.569	5,712	.00572	1707	91	.1426	1782	127	.1207
1,800,000 C.M.	1.548	5,558	.00588	1708	91	.1406	1783	127	.1191
1,750,000 C.M.	1.526	5,403	.00604	1709	91	.1387	1784	127	.1174
1,700,000 C.M.	1.504	5,249	.00622	1710	91	.1367	1785	127	.1157
1,650,000 C.M.	1.482	5,094	.00641	1711	91	.1347	1786	127	.1140
1,600,000 C.M.	1.459	4,940	.00661	1712	91	.1326	1787	127	.1122
1,550,000 C.M.	1.437	4,786	.00682	1713	91	.1305	1788	127	.1105
1,500,000 C.M.	1.412	4,631	.00705	1714	61	.1568	1789	91	.1284
1,450,000 C.M.	1.388	4,477	.00730	1715	61	.1542	1790	91	.1262
1,400,000 C.M.	1.364	4,323	.00756	1716	61	.1515	1791	91	.1240
1,350,000 C.M.	1.340	4,168	.00784	1717	61	.1488	1792	91	.1218
1,300,000 C.M.	1.315	4,014	.00814	1718	61	.1460	1793	91	.1195
1,250,000 C.M.	1.289	3,859	.00846	1719	61	.1431	1794	91	.1172
1,200,000 C.M.	1.263	3,705	.00882	1720	61	.1403	1795	91	.1148
1,150,000 C.M.	1.236	3,551	.00920	1721	61	.1373	1796	91	.1124
1,100,000 C.M.	1.209	3,396	.00962	1722	61	.1343	1797	91	.1099
1,050,000 C.M.	1.181	3,242	.01007	1723	61	.1312	1798	91	.1074
1,000,000 C.M.	1.152	3,088	.01058	1724	61	.1280	1724	61	.1280
950,000 C.M.	1.123	2,933	.01114	1725	61	.1248	1725	61	.1248
900,000 C.M.	1.094	2,779	.01175	1726	61	.1215	1726	61	.1215
850,000 C.M.	1.062	2,624	.01245	1727	61	.1180	1727	61	.1180
800,000 C.M.	1.031	2,470	.01322	1728	61	.1145	1728	61	.1145
750,000 C.M.	.998	2,316	.01410	1729	61	.1109	1729	61	.1109
700,000 C.M.	.964	2,161	.01511	1730	61	.1071	1730	61	.1071
650,000 C.M.	.929	2,007	.01627	1731	61	.1032	1731	61	.1032
600,000 C.M.	.893	1,853	.01763	1732	37	.1273	1807	61	.0992
550,000 C.M.	.855	1,698	.01923	1733	37	.1219	1808	61	.0950
500,000 C.M.	.813	1,544	.02116	1734	37	.1162	1734	37	.1162
450,000 C.M.	.772	1,389	.02351	1735	37	.1103	1735	37	.1103
400,000 C.M.	.728	1,235	.02645	1736	19	.1451	1811	37	.1040
350,000 C.M.	.681	1,080	.03022	1737	19	.1357	1812	37	.0973
300,000 C.M.	.630	926	.03526	1738	19	.1257	1813	37	.0900
250,000 C.M.	.575	772	.04231	1739	19	.1147	1814	37	.0822
0000 B.&S.	.528	653.3	.04999	1740	19	.1055	1740	19	.1055
0000 B.&S.	.528	653.3	.04999	1741	12	.1328	....	..	.....
0000 B.&S.	.528	653.3	.04999	1742	7	.1739	....	..	.....
000 B.&S.	.470	518.1	.06304	1743	19	.0940	1743	19	.0940
000 B.&S.	.470	518.1	.06304	1744	12	1183	....	..	.....
000 B.&S.	.470	518.1	.06304	1745	7	.1548	....	..	.....
00 B.&S.	.419	410.9	.07949	1746	7	.1379	1821	19	.0837
0 B.&S.	.373	325.8	.10024	1747	7	.1228	1822	19	.0745
1 B.&S.	.328	258.4	.12640	1748	7	.1093	1823	19	.0664
2 B.&S.	.292	204.9	.15939	1749	7	.0974	1749	7	.0974
3 B.&S.	.260	162.5	.20098	1750	7	.0867	1750	7	.0867
4 B.&S.	.232	128.9	.25343	1751	7	.0772	1751	7	.0772
5 B.&S.	.206	102.2	.31957	1752	7	.0688	1752	7	.0688
6 B.&S.	.184	81.05	.40297	1753	7	.0612	1753	7	.0612
8 B.&S.	.146	50.97	.64075	1754	7	.0486	1754	7	.0486
9 B.&S.	.130	49.42	.80797	1755	7	.0432	1755	7	.0432
10 B.&S.	.116	32.06	1.0188	1756	7	.0385	1756	7	.0385
12 B.&S.	.092	20.16	1.6200	1757	7	.0305	1757	7	.0305
14 B.&S.	.073	12.68	2.5759	1758	7	.0242	1758	7	.0242
16 B.&S.	.058	7.97	4.0959	1759	7	.0193	1759	7	.0193
18 B.&S.	.045	5.015	6.5127	1760	7	.0151	1760	7	.0151
20 B.&S.	.036	3.154	10.356	1761	7	.0121	1761	7	.0121
22 B.&S.	.029	1.984	16.466	1762	7	.0096	1762	7	.0096

*The weight and resistance of concentric strands has been calculated as 2% greater than solid wire. Add 2% to above for rope stranding.

(Continued on Next Page)

Trolley Wire (Contact Wire)

Copper or Roebling Bronze can be furnished round in sizes 4/0 to 1/0 B.&S. gauge; grooved in sizes 350,000 circular mils to 2/0 B.&S. gauge; Figure 8 (copper only) in sizes 4/0 to 2/0 B.&S. gauge.



ROEBLING HARD DRAWN COPPER TROLLEY WIRE
Round Section—Style 1
A. S. T. M. B-47-27

Size, B.&S. gauge	List No.	A	Sectional area		Wt., lb.		Breaking strength, lb.	Resistance, ohms per 1000 ft. 20° C. =68° F. 98% cond.
		Diam., in.	Cir. mils	Sq. in.	1000 ft.	Mile		
00000	1601	.548	300,304	.2359	969	4,800	11,085	.03524
0000	1602	.460	211,600	.1662	641	3,382	8,143	.05001
000	1603	.410	168,100	.1320	509	2,687	6,733	.06296
00	1604	.365	133,225	.1046	403	2,129	5,523	.07944
0	1605	.325	105,625	.0830	320	1,688	4,523	.1002

American Standard Grooved Section—Style 2
A. S. T. M. B-47-27

Size, B. & S. gauge	List No.	Sectional area		Dimensions, in. A	B	C	E	Wt., lb.		Breaking strength, lb.	Resistance, ohms per 1000 ft. 20° C. =68° F. 98% cond.
		Cir. mils	Sq. in.	Section depth	Upper lobe width	Lower lobe width	Web thickness	1000 ft.	Mile		
0000	1610	211,600	.1665	.482	.376	.482	.267	642	3,389	7,751	.04992
000	1611	168,100	.1314	.430	.340	.429	.237	506	2,674	6,366	.06326
00	1612	133,225	.1083	.392	.318	.388	.217	418	2,205	5,432	.07675

Standard Figure-eight Section—Style 3

....	1614	300,000	.2355	.574	.376	.574	.267	908	4,792	10,515	.03529
0000	1615	211,600	.1662	.600	.250	.450	.150	641	3,382	7,736	.05001
000	1616	168,100	.1318	.540	.222	.400	.130	508	2,682	6,386	.06307
00	1617	133,225	.1045	.480	.196	.352	.108	403	2,127	5,243	.07952
0	1618	105,535	.0829	.420	.175	.312	.106	320	1,687	4,291	.1003

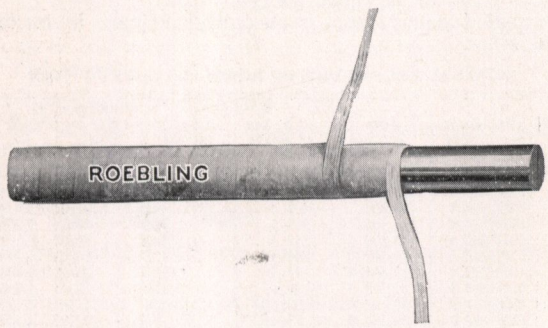
Armature Banding Wire

Roebling standard high-strength tinned steel armature banding wire is drawn from carefully prepared and selected stock. It is a combination of strength, toughness and good tinning, which makes it as suitable for this purpose as bronze or brass, and shows the added advantage of economy.

Magnet Wire

Made of thoroughly annealed copper wire: round in sizes 4/0 to 40 B.&S. gauge, square in sizes 4/0 to 14 B.&S. gauge, or rectangular in sizes from 5 to 250 mils thick and from 75 to 1250 mils wide.

The covering may be single, double or triple cotton; asbestos tape and cotton; silk; enamel; paper; enamel and single silk; enamel and single cotton.



ROEBLING ROUND MAGNET WIRE

Single Cotton Covered					Double Cotton Covered				
Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx. lb. per spool	Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx. lb. per spool
0000	5000	468.0	643	225	0000	5044	476.0	646	175
000	5001	417.6	510	225	000	5045	425.6	513	175
00	5002	372.8	405	225	00	5046	380.0	407	175
0	5003	332.9	321	225	0	5047	340.9	323	175
1	5004	297.3	255	225	1	5048	305.3	257	175
2	5005	265.6	202	225	2	5049	273.6	204	175
3	5006	237.4	161	225	3	5050	245.4	162	175
4	5007	212.3	128	225	4	5051	220.3	129	175
5	5008	189.9	101	225	5	5052	197.9	102	175
6	5009	170.0	80.4	225	6	5053	176.0	81.1	175
7	5010	152.3	63.9	225	7	5054	158.3	64.5	175
8	5011	134.5	50.5	225	8	5055	140.5	51.1	175
9	5012	120.4	40.1	225	9	5056	126.4	40.6	175
10	5013	106.9	31.8	225	10	5057	111.9	32.2	175
11	5014	95.7	25.3	225	11	5058	100.7	25.6	175
12	5015	85.8	20.1	225	12	5059	90.8	20.4	175
13	5016	76.5	15.9	225	13	5060	81.0	16.2	175
14	5017	68.6	12.6	225	14	5061	73.1	12.9	175
15	5018	61.6	10.0	50	15	5062	66.1	10.2	25
16	5019	55.3	7.98	50	16	5063	59.8	8.17	25
17	5020	49.8	6.35	50	17	5064	54.3	6.51	25
18	5021	44.8	5.05	50	18	5065	49.3	5.20	25
19	5022	40.4	4.02	50	19	5066	44.9	4.15	25
20	5023	36.5	3.20	50	20	5067	41.0	3.32	25
21	5G24	32.5	2.54	9	21	5068	36.5	2.63	8
22	5025	29.4	2.02	9	22	5069	33.4	2.11	8
23	5026	26.6	1.61	9	23	5070	30.6	1.69	8
24	5027	24.1	1.28	8	24	5071	28.1	1.36	7
25	5028	21.9	1.03	8	25	5072	25.9	1.09	7
26	5029	19.9	.819	8	26	5073	23.9	.881	7
27	5030	18.2	.655	3	27	5074	22.2	.712	2.5
28	5031	16.6	.525	3	28	5075	20.6	.577	2.5
29	5032	15.3	.421	3	29	5076	19.3	.469	2.5
30	5033	14.0	.338	2.5	30	5077	18.0	.383	2
31	5034	12.9	.272	2.5	31	5078	16.9	.314	2
32	5035	12.0	.219	2.5	32	5079	16.0	.258	2
33	5036	11.1	.177	1	33	5080	15.1	.214	.5
34	5037	10.3	.144	1	34	5081	14.3	.178	.5
35	5038	9.62	.117	1	35	5082	13.6	.149	.5
36	5039	9.00	.095	1	36	5083	13.0	.126	.5
37	5040	8.45	.078	1	37	5084	12.5	.107	.5
38	5041	7.97	.064	1	38	5085	12.0	.092	.5
39	5042	7.53	.053	1	39	5086	11.5	.080	.5
40	5043	7.15	.044	1	40	5087	11.2	.070	.5

ROEBLING ROUND MAGNET WIRE

Single Silk Covered					Double Silk Covered				
Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx. lb. per spool	Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx lb. per spool
19	5100	37.9	3.95	50	19	5130	39.9	4.01	25
20	5101	34.0	3.14	50	20	5131	36.0	3.19	25
21	5102	30.5	2.49	9	21	5132	32.5	2.54	8
22	5103	27.4	1.98	9	22	5133	29.4	2.02	8
23	5104	24.6	1.58	9	23	5134	26.6	1.61	8
24	5105	22.1	1.25	8	24	5135	24.1	1.28	7
25	5106	19.9	.996	8	25	5136	21.9	1.03	7
26	5107	17.9	.793	8	26	5137	19.9	.819	7
27	5108	16.2	.631	3	27	5138	18.2	.655	2.5
28	5109	14.6	.503	3	28	5139	16.6	.525	2.5
29	5110	13.3	.401	3	29	5140	15.3	.421	2.5
30	5111	12.0	.320	2.5	30	5141	14.0	.338	2
31	5112	10.9	.255	2.5	31	5142	12.9	.272	2
32	5113	9.95	.204	2.5	32	5143	12.0	.219	2
33	5114	9.08	.163	1	33	5144	11.1	.177	.5
34	5115	8.31	.131	1	34	5145	10.3	.144	.5
35	5116	7.62	.105	1	35	5146	9.62	.117	.5
36	5117	7.00	.084	1	36	5147	9.00	.095	.5
37	5118	6.45	.068	1	37	5148	8.45	.078	.5
38	5119	5.97	.055	1	38	5149	7.97	.064	.5
39	5120	5.53	.044	1	39	5150	7.53	.053	.5
40	5121	5.15	.036	1	40	5151	7.15	.044	.5

ROEBLING ROUND MAGNET WIRE
Enameled

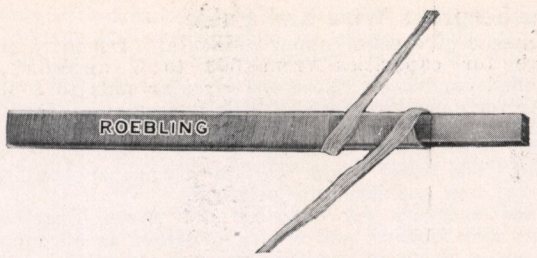
Size, B. & S. gauge	List No.	Approx. outside diameter, mils	Lb. per 1000 ft.	Approx. lb. per spool
8	5160	131.0	50.2	40-60
9	5161	116.9	39.9	40-60
10	5162	104.1	31.6	40-60
11	5163	92.9	24.1	40-60
12	5164	82.8	19.9	40-60
13	5165	74.0	15.8	40-60
14	5166	66.0	12.5	40-60
15	5167	58.8	9.94	40-60
16	5168	52.4	7.89	35-55
17	5169	46.8	6.26	35-55
18	5170	41.7	4.96	35-55
19	5171	37.3	3.94	35-55
20	5172	33.3	3.13	10
21	5173	29.8	2.48	10
22	5174	26.6	1.97	10
23	5175	23.7	1.56	10
24	5176	21.2	1.24	5
25	5177	18.9	.985	5
26	5178	16.9	.783	5
27	5179	15.2	.622	5
28	5180	13.5	.494	5
29	5181	12.2	.392	5
30	5182	10.8	.311	5
31	5183	9.73	.248	2½
32	5184	8.65	.196	2½
33	5185	7.68	.155	2¼
34	5186	6.91	.124	1½
35	5187	6.12	.098	1½
36	5188	5.50	.078	1½
37	5189	4.85	.062	1½
38	5190	4.37	.049	½-¾
39	5191	3.83	.039	½-¾
40	5192	3.45	.031	¼-½

ROEBLING ROUND MAGNET WIRE

Enameled and Single Cotton Covered					Enameled and Single Silk Covered				
Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx. lb. per spool	Size, B. & S. gauge	List No.	Approx. outside diam., mils	Lb. per 1000 ft.	Approx. lb. per spool
8	5200	137.0	50.8	225	8	5240	133.0	50.4	225
9	5201	122.9	40.4	225	9	5241	118.9	40.0	225
10	5202	109.1	32.0	225	10	5242	106.1	31.8	225
11	5203	97.9	25.4	225	11	5243	94.9	25.2	225
12	5204	87.8	20.2	225	12	5244	84.8	20.0	225
13	5205	79.0	16.0	225	13	5245	76.0	15.9	225
14	5206	71.0	12.7	225	14	5246	68.0	12.6	225
15	5207	63.8	10.1	50	15	5247	60.8	10.0	50
16	5208	57.4	8.06	50	16	5248	54.4	7.96	50
17	5209	51.8	6.41	50	17	5249	48.8	6.32	50
18	5210	46.7	5.10	50	18	5250	43.7	5.02	50
19	5211	42.3	4.06	50	19	5251	39.3	4.00	50
20	5112	38.3	3.24	50	20	5252	35.3	3.18	50
21	5213	34.3	2.57	9	21	5253	31.8	2.53	9
22	5214	31.1	2.05	9	22	5254	28.6	2.01	9
23	5215	28.2	1.63	9	23	5255	25.7	1.60	9
24	5216	25.7	1.31	8	24	5256	23.2	1.27	8
25	5217	23.4	1.04	8	25	5257	20.9	1.01	8
26	5218	21.4	.835	8	26	5258	18.9	.808	8
27	5219	19.2	.669	3	27	5259	17.2	.645	3
28	5220	17.5	.536	3	28	5260	15.5	.514	3
29	5221	16.2	.431	3	29	5261	14.2	.411	3
30	5222	14.8	.347	2.5	30	5262	12.8	.328	2.5
31	5223	13.7	.280	2.5	31	5263	11.7	.263	2.5
32	5224	12.7	.226	2.5	32	5264	10.7	.210	2.5
33	5225	11.7	.182	1	33	5265	9.68	.168	1
34	5226	10.9	.148	1	34	5266	8.91	.135	1
35	5227	10.1	.120	1	35	5267	8.12	.108	1
36	5228	9.50	.099	1	36	5268	7.50	.087	1
37	5229	8.85	.081	1	37	5269	6.85	.070	1
38	5230	8.37	.067	1	38	5270	6.37	.057	1
39	5231	7.83	.055	1	39	5271	5.83	.045	1
40	5232	7.45	.046	1	40	5272	5.45	.037	1

ROEBLING ROUND MAGNET WIRE
Asbestos Covered

Size, B. & S. gauge	List No.	Approx. outside diameter, mils	Lb. per 1000 ft.	Approx. lb. per spool
0000	5250	486.0	648	225
000	5251	435.6	515	225
00	5252	390.8	409	225
0	5253	350.9	325	225
1	5254	315.3	258	225
2	5255	283.6	205	225
3	5256	255.4	163	225
4	5257	230.3	130	225
5	5258	207.9	103	225
6	5259	187.0	82.2	225
7	5260	169.3	65.5	225
8	5261	151.5	52.0	225
9	5262	137.4	41.5	225
10	5263	123.9	33.0	225



ROEBLING SQUARE MAGNET WIRE
Double Cotton Covered

Size, B. & S. gauge	List No.	Dimensions of sides		Area, cir. mils	Wt., lb. per 1000 ft.	Approx. lb. per spool
		Bare wire, mils	Overall			
0000	5270	.460	.483	261100	800.0	225
000	5271	.410	.433	207100	635.0	225
00	5272	.365	.388	164200	508.0	225
0	5273	.325	.348	130200	401.0	225
1	5274	.289	.312	103300	319.0	225
2	5275	.258	.281	81910	253.0	225
3	5276	.229	.252	64960	201.0	225
4	5277	.204	.227	51510	160.0	225
5	5278	.182	.205	40850	128.0	225
6	5279	.162	.183	32400	101.0	225
7	5280	.144	.165	25690	80.6	225
8	5281	.129	.148	20370	63.9	225
9	5282	.114	.131	16160	50.7	225
10	5283	.102	.117	12810	40.2	225
11	5284	.0907	.106	10160	32.0	225

Annunciator Wire

Used for bell, buzzer, annunciator and other signal or control circuits in dry places. The conductors are solid. The insulation consists of two layers of cotton applied in opposite directions and treated with a paraffin base wax compound. The outside layer can be any color or combination of colors desired. These conductors can also be made into multiple conductor cables and furnished with a waxed braid.



ANNUNCIATOR WIRE

Size, B. & S. gauge	List No.	Outside diam., in.	Wt., lb. per 1000 ft.	Size, B. & S. gauge	List No.	Outside diam., in.	Wt., lb. per 1000 ft.
14	6000	.105	15.5	20	6003	.072	4.6
16	6001	.091	10.1	22	6004	.062	3.3
18	6002	.078	6.6	24	6005	.058	2.3

Packages—1, 2 and 8-lb. spools; ¼, ½, 1 and 2-lb. coils.

Office Wire

Used for bell, buzzer, annunciator and other signal or control circuits in damp places. The conductors are solid. The insulation consists of a weatherproofed wrap of cotton, and a combination color cotton braid finished with a special paraffin base wax.



Single Conductor Office Wire



Twin Flat Office Wire

OFFICE WIRE

Size, B. & S. gauge	Single Conductor			Twin Flat Conductor		
	List No.	Outside diam., in.	Wt., lb. per 1000 ft.	List No.	Outside diam., in.	Wt., lb. per 1000 ft.
14	6026	.108	19	6029	.155-.250	42
16	6027	.090	14	6030	.137-.218	31
18	6028	.078	10	6031	.130-.190	25

Packages—spools, 5 or 10 lb.; coils, 15 to 30 lb.; 200 lb. per case.

(Continued on Next Page)

Weatherproof Wire and Cable

Consists of a solid copper conductor (4/0 to 18 B.&S. gauge for capacities from 300 to 5 amperes), or stranded conductor (2,000,000 circular mils to 8 B.&S. gauge for capacities from 1670 to 50 amperes), insulated with 2 or 3 closely-woven cotton braids that are thoroughly impregnated with high grade moistureproof compound. The outer braid receives a final application of mineral wax and is highly polished.

Used outdoors for lighting and power distribution mains and feeders, and where moisture is encountered and where fireproof qualities are not essential.

Triple braid wire is approved by the Underwriters and bears their tag.



ROEBLING SOLID WEATHERPROOF WIRE

Size, B.&S. gauge	Double Braid						*Triple Braid					
	List No.	Outside diam., mils	Lb. per 1000 ft.	Lb. per reel	Lb. per coil	Ft. in reel or coil	List No.	Outside diam., mils	Lb. per 1000 ft.	Lb. per reel	Lb. per coil	Ft. in reel or coil
Soft Copper Wire												
0000	5500	650	723	2430	...	3360	5560	730	767	2580	...	3360
000	5501	610	587	2480	...	4320	5561	690	629	2660	...	4230
00	5502	545	467	1495	...	3200	5562	620	502	1610	...	3200
0	5503	500	377	1520	...	4030	5563	570	407	1640	...	4030
1	5504	435	294	930	...	3160	5564	495	316	1000	...	3160
2	5505	400	239	474	...	1980	5565	460	260	515	...	2000
3	5506	345	185	465	...	2515	5566	390	200	500	...	2515
4	5507	324	151	...	120	792	5567	370	164	...	130	792
5	5508	300	122	...	120	1000	5568	350	135	...	135	1000
6	5509	280	100	...	125	1265	5569	330	112	...	140	1250
8	5510	240	66	...	130	2000	5570	280	75	...	150	2000
10	5511	215	46	...	145	3150	5571	250	53	...	160	3020
12	5512	180	30	...	35	1170	5572	210	35	...	30	857
14	5513	160	20	...	35	1750	5573	190	25	...	30	1200
16	5514	150	16	...	24	1500	5574	160	20	...	25	1470
18	5515	140	12	...	20	1665	5575	150	16	...	20	1540
Hard Drawn Copper Wire												
4	5525	325	151	...	240	1585	5600	370	164	...	260	1585
6	5526	280	100	...	250	2500	5601	330	112	...	280	2500
8	5527	240	66	...	264	4000	5602	280	75	...	300	4000
9	5528	220	54	...	277	5130	5603	260	62	...	275	4435
10	5529	215	46	...	216	4700	5604	250	53	...	250	4700
12	5530	180	30	...	85	2850	5605	210	35	...	100	2850
14	5531	160	20	...	60	3000	5606	190	25	...	75	3000
Galvanized Steel Wire												
§4	5550	380	163	...	215	1320	5625	420	203	...	235	1320
§6	5551	320	126	...	222	1760	5626	375	140	...	246	1760
§8	5552	285	89	...	235	2640	5627	335	99	...	261	2640
§9	5553	270	76	...	200	2640	5628	320	85	...	225	2640
§10	5554	255	65	...	175	2640	5629	305	76	...	200	2640
§12	5555	220	43	...	113	2640	5630	270	49	...	130	2640
§14	5556	185	27	...	73	2640	5631	225	33	...	88	2640

*N.E.C. Standard.
§Birmingham wire gauge.



ROEBLING STRANDED WEATHERPROOF WIRE
Soft Copper Wire

Size of conductor	Double Braid					*Triple Braid				
	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. in reel	Lb. per reel	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. in reel	Lb. per reel
2,000,000 C.M.	5650	2.00	6690	500	3345	5700	2.18	7008	500	3504
1,750,000 C.M.	5651	1.89	5894	500	2947	5701	2.08	6193	500	3097
1,500,000 C.M.	5652	1.78	5098	500	2549	5702	1.97	5380	500	2690
1,250,000 C.M.	5653	1.64	4264	500	2132	5703	1.81	4508	500	2254
1,000,000 C.M.	5654	1.50	3456	1000	3456	5704	1.67	3674	1000	3673
900,000 C.M.	5655	1.44	3127	1000	3127	5705	1.61	3332	1000	3332
800,000 C.M.	5656	1.37	2799	1000	2799	5706	1.54	2992	1000	2992

(Table continued top of next column)

ROEBLING STRANDED WEATHERPROOF WIRE (Continued)
Soft Copper Wire

Size of conductor	Double Braid					*Triple Braid				
	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. in reel	Lb. per reel	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. in reel	Lb. per reel
750,000 C.M.	5657	1.34	2635	1000	2635	5707	1.50	2822	1000	2822
700,000 C.M.	5658	1.31	2471	1000	2471	5708	1.47	2650	1000	2650
600,000 C.M.	5659	1.18	2093	1000	2093	5709	1.33	2235	1000	2235
500,000 C.M.	5660	1.10	1765	2000	3530	5710	1.24	1894	2000	3788
450,000 C.M.	5661	1.06	1601	2000	3202	5711	1.20	1724	2000	3448
400,000 C.M.	5662	1.02	1436	2000	2872	5712	1.15	1553	2000	3106
350,000 C.M.	5663	.94	1248	2000	2496	5713	1.06	1345	2000	2690
300,000 C.M.	5664	.89	1083	2500	2708	5714	1.01	1174	2500	2935
250,000 C.M.	5665	.82	907	3000	2721	5715	.93	985	3000	2955
0000 B.&S.	5666	.71	745	3500	2608	5716	.81	800	3500	2800
000 B.&S.	5667	.66	604	4000	2416	5717	.75	653	4000	2612
00 B.&S.	5668	.60	482	3500	1687	5718	.68	522	3500	1827
0 B.&S.	5669	.54	388	4000	1552	5719	.62	424	4000	1696
1 B.&S.	5670	.47	303	3000	909	5720	.54	328	3000	984
2 B.&S.	5671	.43	246	2000	492	5721	.50	270	2000	540
3 B.&S.	5672	.36	190	2000	380	5722	.42	206	2000	412
4 B.&S.	5673	.33	155	2500	388	5723	.40	170	2500	425
5 B.&S.	5674	.31	126	2500	315	5724	.37	140	2500	350
6 B.&S.	5675	.28	103	2500	258	5725	.35	115	2500	288
8 B.&S.	5676	.25	68	3000	204	5726	.30	78	3000	234

*N.E.C. Standard

Slow-burning Wire and Cable

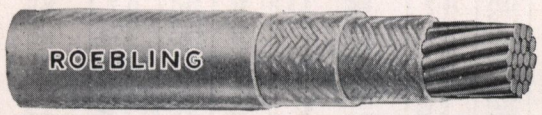
Used in hot, dry places where other forms of insulation would soon deteriorate or burn, as in the rear of switchboards, open wiring in mill construction buildings, risers in elevator and other shafts, etc.

Consists of solid copper conductors (4/0 to 18 B.&S. gauge) or stranded conductors 2,000,000 circular mils to 8 B.&S. gauge), insulated with three closely-woven cotton braids, each braid being thoroughly filled with white, slow-burning compound. The outer braid is polished to a hard, smooth surface. A red marker thread woven in the inner braid is the Roebling identification.

ROEBLING SOLID SLOW-BURNING WIRE—N.E.C. STANDARD

Size, B.&S. gauge	List No.	Outside diam., mils	Lb. per 1000 ft.	Lb. per reel	Lb. per coil	Ft. in reel or coil	Size, B.&S. gauge	List No.	Outside diam., mils	Lb. per 1000 ft.	Lb. per reel	Lb. per coil	Ft. in reel or coil
0000	5800	726	925	3108	...	3360	5	5808	365	190	380	...	2000
000	5801	668	760	3215	...	4230	6	5809	341	160	400	...	2500
00	5802	593	600	1290	...	2150	8	5810	268	100	...	50	500
0	5803	548	495	1337	...	2700	10	5811	252	80	...	36	450
1	5804	456	365	1153	...	3160	12	5812	213	55	...	28	500
2	6805	445	320	598	...	1980	14	5813	188	40	...	28	700
3	5806	420	270	679	...	2515	*16	5814	164	30	...	28	930
4	5807	382	220	349	...	1585	*18	5815	151	24	...	29	1200

*Not N.E.C. standard.



ROEBLING STRANDED SLOW-BURNING WIRE—N.E.C. STANDARD

Size of conductor cir.mils	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. per reel	Lb. per reel	Size of conductor, B.&S. gauge	List No.	Outside diam., in.	Lb. per 1000 ft.	Ft. per reel	Lb. per reel
2,000,000	5825	2.04	7540	500	3770	0000	5850	.79	960	3500	3360
1,750,000	5826	1.94	6700	500	3350	000	5851	.72	785	4000	3140
1,500,000	5827	1.82	5830	500	2915	00	5852	.64	625	2000	1250
1,250,000	5828	1.69	4940	500	2470	0	5853	.59	510	2500	1275
1,000,000	5829	1.52	3980	1000	3980	1	5854	.49	380	3000	1140
900,000	5830	1.47	3640	1000	3640	2	5855	.48	335	2000	670
800,000	5831	1.40	3280	1000	3280	3	5856	.45	280	2000	560
750,000	5832	1.37	3100	1000	3100	4	5857	.41	230	2500	575
700,000	5833	1.33	2920	1000	2920	5	5858	.38	195	2500	488
600,000	5834	1.21	2460	1000	2460	6	5859	.37	165	2500	413
500,000	5835	1.12	2080	2000	4160	8	5860	.29	105	3000	315
450,000	5836	1.08	1900	2000	3800	....	....	...	...	....	....
400,000	5837	1.02	1700	2000	3400	....	....	...	...	....	....
350,000	5838	.97	1500	2000	3000	....	....	...	...	....	....
300,000	5839	.91	1310	2500	3280	....	....	...	...	....	....
250,000	5840	.85	1120	3000	3360	....	....	...	...	....	....

Rubber-insulated and Braided Wire and Cable for General Lighting and Power

All Roebling rubber-insulated braided wires and cables are made to exacting specifications that exceed the requirements of the National Board of Fire Underwriters. Code ROEBLING grade is manufactured under the inspection service of the Underwriters' Laboratories. All grades carry the Underwriters' tag and label.

Conductors—The copper conductors are soft drawn, true to gauge and free from surface defects. They are uniformly covered with pure tin to prevent any possible injurious reaction between the rubber compound and the copper. The physical and electrical characteristics of Roebling tinned copper wire meet the requirements of the A.S.T.M. specifications for soft tinned copper wire.

Insulation—Roebling rubber compound is vulcanized under thoroughly controlled conditions, which assures a homogeneous, tough, elastic and uniformly thick wall of insulation around the conductor after vulcanization. The nominal thicknesses of insulation for various working voltages are given in the following table:

NOMINAL THICKNESSES OF RUBBER INSULATION

Size conductor	Working voltage—not over					
	600	1500	2500	3500	5000	7000
	*Nominal thickness of insulation, in.					
14 to 8 B.&S.	3/64	5/64	5/64	10/64	12/64	15/64
7 to 2 B.&S.	4/64	7/64	9/64	10/64	12/64	15/64
1 to 4/0 B.&S.	5/64	8/64	10/64	10/64	12/64	15/64
225,000 to 500,000 c.m.	6/64	9/64	10/64	11/64	12/64	15/64
525,000 to 1,000,000 c.m.	7/64	10/64	10/64	12/64	12/64	15/64
Over 1,000,000 c.m.	8/64	10/64	10/64	12/64	14/64	15/64
Braided finish: Type letter	R	R-15	R-25	R-35	R-50	R-70
Leaded finish: Type letter	RL	RL-15	RL-25	RL-35	RL-50	RL-70

*Minimum thickness of insulation is not less than 95% of the nominal given in the table for 3/64 in., and 90% for 4/64 in. and greater.

Grades of Rubber Insulation—The following grades of rubber compound for rubber-insulated wires and cables are offered—all orders or inquiries should specify the grade of rubber insulation desired. Specifications of the three standard grades described below, including physical, chemical and electrical tests, will be sent on request.

Code ROEBLING Grade—This is a high grade, dependable and long-life rubber compound that exceeds the requirements of the National Electrical Code by a wide margin. It is recommended as a high quality product for house, mill and factory installations.

Inter ROEBLING Grade—This is a high grade rubber compound that is intermediate in quality and price between Code ROEBLING Grade and 30% ROEBLING Grade. Contains not less than 25% (by weight) of new Hevea (Para) rubber. It is slightly more expensive than Code ROEBLING Grade. It is recommended for use where builders require a higher grade product than code wire, such as in schools, municipal and state buildings, etc.

30% ROEBLING Grade—This is an especially high grade rubber compound recommended for use in railway signal service, telephone and telegraph service, marine service, and all installations where the service is particularly severe and the life hazard unusual.

Contains not less than 30% (by weight) of new Hevea (Para) rubber—*no reclaimed rubber is used.* It is made in accordance with the 30% Hevea Specifications given in the Report of the Joint Rubber Insulation Committee and meets the physical, electrical and chemical requirements of all principal engineering society specifications. It has greater dielectric strength, greater elasticity, higher insulating properties, and retains its exceptionally high elasticity longer than the other grades. Its cost is slightly greater than that of the Inter ROEBLING Grade.

Special Grades—In addition to the three standard grades of rubber insulation described above, we furnish rubber insulation to meet specifications for specific purposes.

Construction and Sizes—The following tables give detail dimensions and weights of single-conductor, twin flat conductor and three-conductor cables for 600 and 2500 volts maximum working pressure only. Similar information will be furnished for other sizes of conductors, constructions and thicknesses of insulation for any commercial working voltage.

Coverings—The outer covering of single or multiple conductors is either braid or lead sheath.

Braid finished cables may have: (1) single braid; (2) double braid; (3) tape and braid; (4) tape and double braid.

If slow-burning braids are required, the coverings over the rubber insulation are: (1) tape and braid; (2) tape and double braid.

The finish may be black, drab or white.

Lead Sheath—The coverings over the core of cables to be lead sheathed are:

Single-conductors—*Tapes* on sizes larger than No. 6 B.&S. gauge; *braid* on sizes No. 6 B.&S. gauge and smaller.

Multiple conductors—The individual conductors are finished the same as single conductors. The covering over the assembled conductors is a tape, except for flat twin cables.

Lead sheath is 99.85% pure commercial lead.



ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Single Conductor—Stranded and Solid
600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Stranded Conductor—Tape and Single Braid					
2,000,000 c.m.	6500	8/64	1.97	6826	500
1,750,000 c.m.	6501	8/64	1.87	6013	500
1,500,000 c.m.	6502	8/64	1.75	5203	500
1,250,000 c.m.	6503	8/64	1.63	4383	500
1,000,000 c.m.	6504	7/64	1.45	3501	1000
900,000 c.m.	6505	7/64	1.39	3171	1000
800,000 c.m.	6506	7/64	1.33	2841	1000
750,000 c.m.	6507	7/64	1.29	2675	1000
700,000 c.m.	6508	7/64	1.26	2508	1000
600,000 c.m.	6509	7/64	1.19	2176	1000
500,000 c.m.	6510	6/64	1.08	1811	1000
400,000 c.m.	6511	6/64	.99	1475	1000
300,000 c.m.	6512	6/64	.89	1136	1000
250,000 c.m.	6513	6/64	.84	966	1000
0000 B. & S.	6514	5/64	.76	812	1000
000 B. & S.	6515	5/64	.70	661	1000
00 B. & S.	6516	5/64	.65	540	1000
0 B. & S.	6517	5/64	.60	442	1000
Stranded Conductor—Double Braid					
1 B. & S.	6518	5/64	.56	346	1000
2 B. & S.	6519	4/64	.49	273	1000
3 B. & S.	6520	4/64	.46	224	1000
4 B. & S.	6521	4/64	.43	184	500
6 B. & S.	6522	4/64	.39	127	500
8 B. & S.	6523	3/64	.313	92	500
10 B. & S.	6524	3/64	.283	68	500
12 B. & S.	6525	3/64	.259	49	500
14 B. & S.	6526	3/64	.240	38	500
Stranded Conductor—Single Braid					
8 B. & S.	6527	3/64	.27	78	500
10 B. & S.	6528	3/64	.24	55	500
12 B. & S.	6529	3/64	.22	40	500
14 B. & S.	6530	3/64	.20	29	500
Solid Conductor—Double Braid					
§0 B. & S.	6531	5/64	.57	418	1000
1 B. & S.	6532	5/64	.52	328	1000
2 B. & S.	6533	4/64	.46	255	1000
3 B. & S.	6534	4/64	.43	209	500
4 B. & S.	6535	4/64	.41	172	500
6 B. & S.	6536	4/64	.36	118	500
8 B. & S.	6537	3/64	.295	86	500
10 B. & S.	6538	3/64	.269	61	500
12 B. & S.	6539	3/64	.248	46	500
14 B. & S.	6540	3/64	.231	36	500
Solid Conductor—Single Braid					
8 B. & S.	6541	3/64	.25	76	500
10 B. & S.	6542	3/64	.23	51	500
12 B. & S.	6543	3/64	.21	37	500
14 B. & S.	6544	3/64	.19	28	500

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

§Tape and braid instead of two braids.

(Continued on Next Page)

ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Single Conductor—Stranded and Solid
2500 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Stranded Conductor—Tape and Single Braid					
2,000,000 c.m.	6700	19/64	2.05	7009	500
1,750,000 c.m.	6701	19/64	1.95	6186	500
1,500,000 c.m.	6702	19/64	1.83	5366	500
1,250,000 c.m.	6703	19/64	1.71	4534	500
1,000,000 c.m.	6704	19/64	1.55	3659	500
900,000 c.m.	6705	19/64	1.49	3323	500
800,000 c.m.	6706	19/64	1.43	2985	1000
750,000 c.m.	6707	19/64	1.39	2816	1000
700,000 c.m.	6708	19/64	1.36	2646	1000
600,000 c.m.	6709	19/64	1.29	2306	1000
500,000 c.m.	6710	19/64	1.21	1968	1000
400,000 c.m.	6711	19/64	1.12	1620	1000
300,000 c.m.	6712	19/64	1.03	1267	1000
250,000 c.m.	6713	19/64	.97	1089	1000
0000 B. & S.	6714	19/64	.92	954	1000
000 B. & S.	6715	19/64	.87	793	1000
00 B. & S.	6716	19/64	.81	663	1000
0 B. & S.	6717	19/64	.77	558	1000
1 B. & S.	6718	19/64	.74	454	1000
2 B. & S.	6719	9/64	.66	368	1000
3 B. & S.	6720	9/64	.63	313	1000
4 B. & S.	6721	9/64	.60	281	1000
6 B. & S.	6722	9/64	.56	281	1000
8 B. & S.	6723	8/64	.43	142	1000
10 B. & S.	6724	8/64	.40	112	1000
12 B. & S.	6725	8/64	.38	92	1000
14 B. & S.	6726	8/64	.36	78	1000
Solid Conductor—Tape and Single Braid					
0 B. & S.	6731	19/64	.67	525	1000
1 B. & S.	6732	19/64	.63	427	1000
2 B. & S.	6733	9/64	.57	344	1000
3 B. & S.	6734	9/64	.54	292	1000
4 B. & S.	6735	9/64	.52	251	1000
6 B. & S.	6736	9/64	.47	190	1000
8 B. & S.	6737	8/64	.41	129	1000
10 B. & S.	6738	8/64	.38	103	1000
12 B. & S.	6739	8/64	.36	85	1000
14 B. & S.	6740	8/64	.34	73	1000

*Weights given are for wires and cables insulated with Code ROEBLING grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.



ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Single Conductor—Flexible Stranded
600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Stranded Conductor—Tape and Single Braid					
2,000,000 c.m.	7100	8/64	2.19	7073	500
1,750,000 c.m.	7101	8/64	2.07	6234	500
1,500,000 c.m.	7102	8/64	1.94	5404	500
1,250,000 c.m.	7103	8/64	1.80	4556	500
1,000,000 c.m.	7104	7/64	1.65	3628	1000
900,000 c.m.	7105	7/64	1.56	3286	1000
800,000 c.m.	7106	7/64	1.50	2949	1000
750,000 c.m.	7107	7/64	1.45	2777	1000
700,000 c.m.	7108	7/64	1.41	2605	1000
600,000 c.m.	7109	7/64	1.33	2267	1000
500,000 c.m.	7110	6/64	1.21	1882	1000
400,000 c.m.	7111	6/64	1.11	1540	1000
300,000 c.m.	7112	6/64	1.00	1191	1000
250,000 c.m.	7113	6/64	.93	977	1000
0000 B. & S.	7114	5/64	.84	852	1000
000 B. & S.	7115	5/64	.78	966	1000
00 B. & S.	7116	5/64	.72	541	1000
0 B. & S.	7117	5/64	.66	468	1000
Stranded Conductor—Double Braid					
1 B. & S.	7118	5/64	.61	372	1000
2 B. & S.	7119	4/64	.54	289	1000
3 B. & S.	7120	4/64	.50	237	1000
4 B. & S.	7121	4/64	.46	189	1000
6 B. & S.	7122	4/64	.40	130	500
Stranded Conductor—Single Braid					
8 B. & S.	7123	3/64	.29	80	500
10 B. & S.	7124	3/64	.24	55	500
12 B. & S.	7125	3/64	.22	40	500
14 B. & S.	7126	3/64	.20	29	500

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.



ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Twin Flat (Duplex) Conductor—Solid
600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Solid Conductor—Braided					
8 B. & S.	7400	3/64	.580	172	500
10 B. & S.	7401	3/64	.520	120	500
12 B. & S.	7402	3/64	.480	90	500
14 B. & S.	7403	3/64	.440	70	500

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Three-conductor—Stranded and Solid
600 Volts Maximum Wording Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.
Stranded Conductor—Tape and Single Braid				
0000 B. & S.	8114	5/64	1.63	2508
000 B. & S.	8115	5/64	1.51	2044
00 B. & S.	8116	5/64	1.40	1672
0 B. & S.	8117	5/64	1.30	1375
Stranded Conductor—Double Braid				
1 B. & S.	8118	5/64	1.14	1136
2 B. & S.	8119	4/64	.99	902
3 B. & S.	8120	4/64	.92	746
4 B. & S.	8121	4/64	.85	615
6 B. & S.	8122	4/64	.75	432
8 B. & S.	8123	4/64	.60	272
10 B. & S.	8124	4/64	.53	198
12 B. & S.	8125	4/64	.48	148
14 B. & S.	8126	4/64	.40	111
Solid Conductor—Double Braid				
0 B. & S.	8127	5/64	1.19	1359
1 B. & S.	8128	5/64	1.05	1073
2 B. & S.	8129	4/64	.92	842
3 B. & S.	8130	4/64	.85	696
4 B. & S.	8131	4/64	.79	572
6 B. & S.	8132	4/64	.70	397
8 B. & S.	8133	3/64	.56	265
10 B. & S.	8134	3/64	.49	181
12 B. & S.	8135	3/64	.45	135
14 B. & S.	8136	3/64	.41	105

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

ROEBLING RUBBER-INSULATED BRAIDED WIRES AND CABLES
Three-conductor—Stranded and Solid
2500 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness rubber wall, in.	Outside diam., in.	*Lb. 1000 ft.
Stranded Conductor—Tape and Single Braid				
0000 B. & S.	8220	19/64	1.97	2931
000 B. & S.	8221	19/64	1.85	2436
00 B. & S.	8222	19/64	1.74	2037
0 B. & S.	8223	19/64	1.64	1714
Stranded Conductor—Double Braid				
1 B. & S.	8224	19/64	1.55	1454
2 B. & S.	8225	9/64	1.39	1182
3 B. & S.	8226	9/64	1.32	1011
4 B. & S.	8227	9/64	1.26	910
6 B. & S.	8228	9/64	1.16	688
8 B. & S.	8229	8/64	1.01	494
10 B. & S.	8230	8/64	.95	398
12 B. & S.	8231	8/64	.89	329
14 B. & S.	8232	8/64	.84	276
Solid Conductor—Double Braid				
0 B. & S.	8233	19/64	1.53	1615
1 B. & S.	8234	19/64	1.46	1367
2 B. & S.	8235	9/64	1.32	1106
3 B. & S.	8236	9/64	1.26	946
4 B. & S.	8237	9/64	1.20	817
6 B. & S.	8238	9/64	1.11	623
8 B. & S.	8239	8/64	.97	451
10 B. & S.	8240	8/64	.92	367
12 B. & S.	8241	8/64	.86	302
14 B. & S.	8242	8/64	.82	263

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

Lead-sheathed Rubber-insulated Wire and Cable

Made in single, twin flat, 3-conductor and 4-conductor round, solid or stranded, in accordance with the most exacting specifications, and for all conditions of power transmission, lighting or signal service—underground, submarine or aerial.

Each conductor is covered with the required thickness of any one of our three standard grades of rubber compound (described on the second page preceding), over which is applied a cotton braid saturated with moisture-proof compound, or a tape and a weatherproof braid.

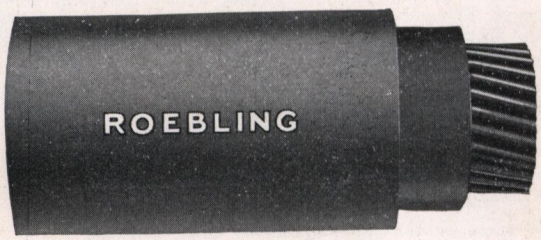
Single-conductor Wires and Cables—Made solid in sizes 4/0 to 18 B.&S. gauge, or stranded in sizes 4/0 to 14 B.&S. gauge, and from 2,000,000 to 250,000 circular mils, and have an extruding sheath of commercially pure lead applied over the braid or tape.

Duplex Parallel Wires and Cables—Made solid in sizes 6 to 18 B.&S. gauge, or stranded in sizes 4/0 to 14 B.&S. gauge and from 800,000 to 250,000 circular mils. Each conductor is covered with any one of our three standard grades of rubber compound (described on the second page preceding), over which is applied a white cotton braid or a red tape on one conductor and a black rubber-filled tape or cotton braid over the other (for polarity identification), the braids being saturated with moisture-proof compound. The conductors are then laid parallel and covered with a commercially pure lead sheath.

Two-conductor Wires and Cables—Made in the same sizes as duplex parallel. They can be made with the rubber-insulated conductors twisted and filled with jute fillers to make them round or they can be made concentric where greater flexibility is desired.

Three-conductor or Four-conductor Stranded Cables—Made solid in sizes from 4/0 to 14 B.&S. gauge; and stranded from 4/0 to 14 B.&S. gauge and from 800,000 to 250,000 circular mils, the rubber-insulated conductors being twisted, filled with jute, wound with a tape and covered with a sheath of commercially pure lead.

We can make these cables with any combination of protective covering, in accordance with the purchaser's specifications.



ROEBLING RUBBER-INSULATED LEAD-SHEATHED WIRES AND CABLES

Single Conductor—Stranded and Solid

600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness, in. Rubber wall	Thickness, in. Lead sheath	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Stranded Contractor—Taped and Leaded						
2,000,000 c.m.	9000	8/64	7/64	2.13	10147	500
1,750,000 c.m.	9001	8/64	7/64	2.03	9170	500
1,500,000 c.m.	9002	8/64	7/64	1.91	8163	500
1,250,000 c.m.	9003	8/64	7/64	1.81	7145	500
1,000,000 c.m.	9004	7/64	7/64	1.62	6002	500
900,000 c.m.	9005	7/64	9/64	1.53	5200	1000
800,000 c.m.	9006	7/64	9/64	1.51	4798	1000
750,000 c.m.	9007	7/64	9/64	1.44	4576	1000
700,000 c.m.	9008	7/64	9/64	1.40	4353	1000
600,000 c.m.	9009	7/64	9/64	1.33	3921	1000
500,000 c.m.	9010	9/64	9/64	1.22	3401	1000
400,000 c.m.	9011	9/64	5/64	1.11	2681	1000
300,000 c.m.	9012	9/64	5/64	1.01	2224	1000
250,000 c.m.	9013	9/64	5/64	.95	1984	1000
0000 B. & S...	9014	8/64	5/64	.87	1736	1000
000 B. & S...	9015	8/64	4/64	.79	1333	1000
00 B. & S...	9016	8/64	4/64	.74	1166	1000
0 B. & S...	9017	8/64	4/64	.69	1022	1000
Stranded Conductor—Braided and Leaded						
1 B. & S...	9018	5/64	4/64	.65	910	1000
2 B. & S...	9019	4/64	4/64	.58	769	1000
3 B. & S...	9020	4/64	4/64	.55	691	1000
4 B. & S...	9021	4/64	4/64	.52	622	1000
6 B. & S...	9022	4/64	4/64	.47	516	1000
8 B. & S...	9023	3/64	4/64	.40	400	1000
10 B. & S...	9024	3/64	3/64	.33	263	1000
12 B. & S...	9025	3/64	3/64	.31	234	1000
14 B. & S...	9026	3/64	2/64	.26	141	1000
Solid Conductor—Braided and Leaded						
6 B. & S...	9027	4/64	4/64	.49	527	1000
8 B. & S...	9028	3/64	3/64	.34	291	1000
10 B. & S...	9029	3/64	3/64	.32	252	1000
12 B. & S...	9030	3/64	3/64	.30	223	1000
14 B. & S...	9031	3/64	2/64	.25	135	1000

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

ROEBLING RUBBER COVERED LEAD-SHEATHED WIRES AND CABLES

Single Conductor—Stranded and Solid

2,500 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness, in. Rubber wall	Thickness, in. Lead sheath	Outside diam., in.	*Lb. 1,000 ft.	Std. pkg., ft.
Stranded Conductor—Taped and Leaded						
2,000,000 c.m.	9200	19/64	8/64	2.44	11585	500
1,750,000 c.m.	9201	19/64	8/64	2.33	10532	500
1,500,000 c.m.	9202	19/64	7/64	2.16	8857	500
1,250,000 c.m.	9203	19/64	7/64	2.03	7832	500
1,000,000 c.m.	9204	19/64	7/64	1.91	3047	500
900,000 c.m.	9205	19/64	7/64	1.83	6291	500
800,000 c.m.	9206	19/64	7/64	1.77	5849	500
750,000 c.m.	9207	19/64	7/64	1.72	5589	500
700,000 c.m.	9208	19/64	7/64	1.68	5346	500
600,000 c.m.	9209	19/64	9/64	1.57	4485	1000
500,000 c.m.	9210	19/64	9/64	1.48	4005	1000
400,000 c.m.	9211	19/64	9/64	1.38	3508	1000
300,000 c.m.	9212	19/64	9/64	1.27	2989	1000
250,000 c.m.	9213	19/64	9/64	1.20	2701	1000
0000 B. & S.	9214	19/64	5/64	1.12	2219	1000
000 B. & S.	9215	19/64	5/64	1.05	1968	1000
00 B. & S.	9216	19/64	5/64	.99	1761	1000
0 B. & S.	9217	19/64	5/64	.93	1581	1000
Stranded Conductor—Braided and Leaded						
1 B. & S.	9218	19/64	5/64	.88	1438	1000
2 B. & S.	9219	9/64	4/64	.78	1074	1000
3 B. & S.	9220	9/64	4/64	.74	972	1000
4 B. & S.	9221	9/64	4/64	.70	877	1000
6 B. & S.	9222	9/64	4/64	.64	752	1000
8 B. & S.	9223	8/64	4/64	.57	624	1000
10 B. & S.	9224	8/64	4/64	.53	554	1000
12 B. & S.	9225	8/64	4/64	.47	475	1000
14 B. & S.	9226	8/64	4/64	.45	442	1000

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.



ROEBLING RUBBER-INSULATED LEAD-SHEATHED WIRES AND CABLES

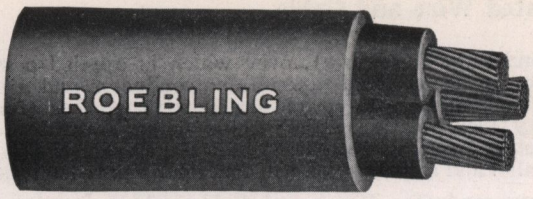
Twin Flat (Duplex)—Solid

600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness, in. Rubber wall	Thickness, in. Lead sheath	Outside diam., in.	*Lb. 1000 ft.	Std. pkg., ft.
Solid Conductor—Braided and Leaded						
8 B. & S.	10000	3/64	4/64	.71	794	1000
10 B. & S.	10001	3/64	4/64	.65	684	1000
12 B. & S.	10002	3/64	4/64	.61	615	1500
14 B. & S.	10003	3/64	4/64	.57	556	1500

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

(Continued on Next Page)



ROEBLING RUBBER-INSULATED LEAD-SHEATHED WIRES AND CABLES
Three-conductor—Stranded and Solid
600 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness, in.		Outside diam., in.	*Lb. 1000 ft.
		Rubber wall	Lead sheath		
Stranded Conductor—Taped and Leaded					
0000 B. & S.	10615	5/64	7/64	1.79	5276
000 B. & S.	10616	5/64	7/64	1.67	4614
00 B. & S.	10617	5/64	6/64	1.53	3689
0 B. & S.	10618	5/64	6/64	1.43	3251
1 B. & S.	10619	5/64	6/64	1.27	2787
2 B. & S.	10620	4/64	5/64	1.09	2076
3 B. & S.	10621	4/64	5/64	1.02	1841
4 B. & S.	10622	4/64	5/64	.96	1644
6 B. & S.	10623	4/64	4/64	.83	1143
8 B. & S.	10624	3/64	4/64	.68	845
10 B. & S.	10625	3/64	4/64	.61	704
12 B. & S.	10626	3/64	4/64	.56	608
14 B. & S.	10627	3/64	4/64	.52	537
Solid Conductor—Taped and Leaded					
0 B. & S.	10628	5/64	6/64	1.32	3018
1 B. & S.	10629	5/64	5/64	1.15	2319
2 B. & S.	10630	4/64	5/64	1.02	1936
3 B. & S.	10631	4/64	5/64	.95	1708
4 B. & S.	10632	4/64	5/64	.90	1533
6 B. & S.	10633	4/64	4/64	.78	1065
8 B. & S.	10634	3/64	4/64	.64	798
10 B. & S.	10635	3/64	4/64	.58	663
12 B. & S.	10636	3/64	4/64	.54	579
14 B. & S.	10637	3/64	4/64	.50	510

*Weights given are for wires and cables insulated with Code ROEBLING Grade of rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

ROEBLING RUBBER-INSULATED LEAD-SHEATHED WIRES AND CABLES
Three-conductor—Stranded and Solid
2500 Volts Maximum Working Pressure—N.E.C.S.

Size conductor	List No.	Thickness, in.		Outside diam., in.	*Lb., 1000 ft.
		Rubber wall	Lead sheath		
Stranded Conductor—Taped and Leaded					
0000 B. & S.	10815	10/64	7/64	2.13	6258
000 B. & S.	10816	10/64	7/64	2.01	5566
00 B. & S.	10817	10/64	7/64	1.90	4986
0 B. & S.	10818	10/64	7/64	1.80	4498
1 B. & S.	10819	10/64	7/64	1.71	4090
2 B. & S.	10820	9/64	6/64	1.52	3184
3 B. & S.	10821	9/64	6/64	1.45	2916
4 B. & S.	10822	9/64	6/64	1.39	2730
6 B. & S.	10823	9/64	6/64	1.29	2367
8 B. & S.	10824	8/64	5/64	1.11	1691
10 B. & S.	10825	8/64	5/64	1.05	1526
12 B. & S.	10826	8/64	5/64	.99	1387
14 B. & S	10827	8/64	5/64	.95	1295
Solid Conductor—Taped and Leaded					
0 B. & S.	10828	10/64	7/64	1.69	4218
1 B. & S.	10829	10/64	6/64	1.59	3468
2 B. & S.	10830	9/64	6/64	1.45	3011
3 B. & S.	10831	9/64	6/64	1.39	2766
4 B & S.	10832	9/64	6/64	1.33	2551
6 B. & S.	10833	9/64	6/64	1.24	2233
8 B. & S.	10834	8/64	5/64	1.07	1602
10 B. & S.	10835	8/64	5/64	1.02	1461
12 B & S.	10836	8/64	5/64	.97	1344
14 B & S.	10837	8/64	5/64	.93	1258

*Weights given are for wires and cables insulated with Code ROEBLING Grade rubber compound—weights of wires and cables insulated with Inter ROEBLING Grade and 30% ROEBLING Grade are slightly greater.

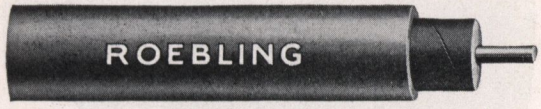
Impregnated-paper-insulated Lead-encased Cables

Paper-insulated cable is used mostly for underground transmission, distribution or service circuits. It is usually drawn into conduit, but may be installed by suspension from a messenger strand carried on poles. If it is to be installed directly in the earth, flat steel tape armor is usually applied over the lead sheath for mechanical protection. As submarine cable, it should be served with round wire armor for protection against crushing, lateral stresses imposed by tides, submerged drifting material, boats, and the dragging of anchors.

Usually paper-insulated cables are manufactured to individual purchaser's specifications, the "Suggested Specifications for Impregnated Paper Lead-encased Cable of the National Electric Light Association" or "Specifications for Impregnated-paper-insulated Lead-covered Cable" prepared by the High Tension Cable Committee of the Association of Edison Illuminating Companies in consultation with the Insulated Power Cable Engineers Association.

Our standard product meets the requirements of design, manufacture, tests and guarantee of these association specifications.

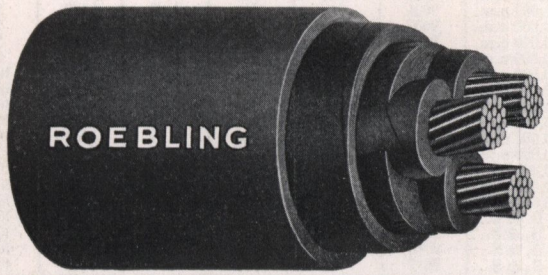
The thickness of insulation and lead sheath (given in the tables on the following page) for various working voltages have been approved by the Insulated Power Cable Engineers Association. These apply to unshielded cable, single or multiple conductor.



Impregnated-paper-insulated Lead Encased Cable Single Solid Conductor



Impregnated-paper-insulated Lead Encased Cable Single Stranded Conductor



Impregnated-paper-insulated Lead Encased Cable Three-conductor Belted Type



Impregnated-paper-insulated Lead Encased Cable Three-conductor Sector-Belted Type

RECOMMENDED THICKNESSES OF PAPER INSULATION FOR IMPREGNATED-PAPER-INSULATED CABLES
Insulated Power Cable Engineers Association Standard

Operating voltage between conductors	Single Conductor		Three-Conductor				
				Ungrounded neutral		Grounded neutral	
	Size	Grounded neutral	Size	Thickness of paper, in.			
		Thickness of paper, in.		On conductors	For belt	On conductors	For belt
Less than 1001	8–1 B. & S.	4/64 (.063)	8–1 B. & S.	4/64 (.063)	2/64 (.031)	4/64 (.063)	2/64 (.031)
	0–0000 B. & S.	5/64 (.078)	0–0000 B. & S.	4/64 (.063)	2/64 (.031)	4/64 (.063)	2/64 (.031)
	225,000–500,000 c.m.	6/64 (.094)	225,000–500,000 c.m.	5/64 (.078)	3/64 (.047)	5/64 (.078)	3/64 (.047)
	525,000–1,000,000 c.m.	7/64 (.109)	525,000–1,000,000 c.m.	5/64 (.078)	3/64 (.047)	5/64 (.078)	3/64 (.047)
	Over 1,000,000 c.m.	8/64 (.125)	Over 1,000,000 c.m.	.....	.....	.....	.....
1001–2000	8–1 B. & S.	5/64 (.078)	8–1 B. & S.	5/64 (.078)	2/64 (.031)	5/64 (.078)	2/64 (.031)
	0–0000 B. & S.	6/64 (.094)	0–0000 B. & S.	5/64 (.078)	2/64 (.031)	5/64 (.078)	2/64 (.031)
	225,000–500,000 c.m.	7/64 (.109)	225,000–500,000 c.m.	5/64 (.078)	3/64 (.047)	5/64 (.078)	3/64 (.047)
	Over 500,000 c.m.	8/64 (.125)	Over 500,000 c.m.	6/64 (.094)	3/64 (.047)	6/64 (.094)	3/64 (.047)
2001–3000	8–0000 B. & S.	6/64 (.094)	8–0000 B. & S.	6/64 (.094)	2/64 (.031)	6/64 (.094)	2/64 (.031)
	225,000–500,000 c.m.	7/64 (.109)	225,000–500,000 c.m.	6/64 (.094)	3/64 (.047)	6/64 (.094)	3/64 (.047)
	Over 500,000 c.m.	8/64 (.125)	Over 500,000 c.m.	6/64 (.094)	3/64 (.047)	6/64 (.094)	3/64 (.047)
3001–4000	8–0000 B. & S.	7/64 (.109)	8–0000 B. & S.	6/64 (.094)	3/64 (.047)	6/64 (.094)	3/64 (.047)
	225,000–500,000 c.m.	8/64 (.125)	225,000–500,000 c.m.	6/64 (.094)	3/64 (.063)	6/64 (.094)	4/64 (.063)
	Over 500,000 c.m.	9/64 (.125)	Over 500,000 c.m.	7/64 (.109)	4/64 (.063)	7/64 (.109)	4/64 (.063)
4001–5000	8–0000 B. & S.	8/64 (.125)	8–0000 B. & S.	6/64 (.094)	3/64 (.047)	6/64 (.094)	3/64 (.047)
	225,000–500,000 c.m.	8/64 (.125)	225,000–500,000 c.m.	6/64 (.094)	4/64 (.063)	6/64 (.094)	4/64 (.063)
	Over 500,000 c.m.	9/64 (.125)	Over 500,000 c.m.	7/64 (.109)	4/64 (.063)	7/64 (.109)	4/64 (.063)
5001–6000	8 B. & S. and larger	8/64 (.125)	8 B. & S. and larger	7/64 (.109)	7/64 (.109)	7/64 (.109)	4/64 (.063)
6001–7000	8 B. & S. and larger	9/64 (.141)	6 B. & S. and larger	8/64 (.125)	8/64 (.125)	8/64 (.125)	4/64 (.063)
7001–8000	8 B. & S. and larger	10/64 (.156)	6 B. & S. and larger	8/64 (.125)	8/64 (.125)	8/64 (.125)	4/64 (.063)
8001–9000	8 B. & S. and larger	10/64 (.156)	4 B. & S. and larger	9/64 (.141)	9/64 (.141)	9/64 (.141)	4/64 (.063)
9001–10000	6 B. & S. and larger	11/64 (.172)	4 B. & S. and larger	9/64 (.141)	9/64 (.141)	9/64 (.141)	5/64 (.078)
10001–12000	6 B. & S. and larger	13/64 (.188)	2 B. & S. and larger	10/64 (.156)	10/64 (.156)	10/64 (.156)	5/64 (.078)
12001–13000	6 B. & S. and larger	13/64 (.203)	2 B. & S. and larger	11/64 (.172)	11/64 (.172)	11/64 (.172)	5/64 (.078)
13001–14000	6 B. & S. and larger	13/64 (.203)	2 B. & S. and larger	11/64 (.172)	11/64 (.172)	11/64 (.172)	6/64 (.094)
14001–15000	4 B. & S. and larger	14/64 (.219)	2 B. & S. and larger	12/64 (.188)	12/64 (.188)	12/64 (.188)	6/64 (.094)
15001–16000	4 B. & S. and larger	14/64 (.219)	1 B. & S. and larger	13/64 (.203)	13/64 (.203)	13/64 (.203)	6/64 (.094)
16001–17000	4 B. & S. and larger	15/64 (.234)	1 B. & S. and larger	13/64 (.203)	13/64 (.203)	13/64 (.203)	6/64 (.094)

Recommendations for shielded cable—Single conductor, 17000 to 35000 volts; three-conductor, 10000 volts and over.
For flat duplex, use single conductor grounded neutral thickness, 1000 volts or less.

LEAD SHEATH THICKNESSES FOR IMPREGNATED-PAPER-INSULATED CABLES

Inside diameter of sheath, in.	Thickness of lead sheath, in.	Inside diameter of sheath, in.	Thickness of lead sheath, in.
0 to .299	5/64 (.078)	1.250 to 2.249	8/64 (.125)
.300 to .699	6/64 (.094)	2.250 to 3.249	9/64 (.141)
.700 to 1.249	7/64 (.109)	3.250 and larger	10/64 (.156)

For flat duplex, use the long core diameter.

Type H Impregnated-paper-insulated Cable

All type H cable is made under license agreement with the General Cable Corporation who own the patents covering these improvements in cable design. It differs from ordinary cable in that there is a thin metal tape wound directly over the insulation. In single-conductor cable the lead is applied directly over the tape. In three-conductor cable metal tape is wound over each conductor; the three shielded conductors are twisted together with suitable fillers and served over all with a steel tape, which acts as a binder to hold the conductors together while the cable is being processed and reinforces the lead sheath against disruptive stresses in operation.

This improved type of impregnated-paper-insulated cable has many advantages over the non-shielded cable which are generally recognized—these are:

Improved Voltage Characteristics—

(1) All voids and air spaces created between lead sheath and insulation are shielded from electrical stress.
(2) Greater uniformity due to increased possibility of factory control.
(3) Ionization greatly reduced.
(4) Electrically weak fillers are shielded from all electrical stresses.
(5) Stresses are radial; dangerous tangential stresses are eliminated.
(6) All voids and air spaces created in filler spaces are shielded from stress and become harmless.
(7) Greater ability to withstand mechanical strains of handling and installation due to the elimination of the belt, which is weak mechanically as well as electrically.
(8) Less insulation and smaller overall diameter for given working voltage.
(9) Greatly increased length of life due to all these advantages.

Improved Current Characteristics—

(10) Increased current-carrying capacity due to high thermal conductivity of metal shields.
(11) Increased carrying capacity due to possibility of using more copper in given overall diameter on account of reduction in total insulation.

Miscellaneous Advantages—

(12) Making of joints and application of terminals are greatly facilitated.
(13) Simplification of protective devices on account of the fact that all failures occur to ground.



TYPE H IMPREGNATED-PAPER-INSULATED CABLES
Recommended Thicknesses of Insulation and Full-Reel Test Voltages

Kv. between conductors, Neutral grounded	Kv. between conductor and sheath	Thickness of insulation, in.		Test Kv. to sheath A.E.I.C.§
		Single conductor 0000 B. & S. to 750,000 c.m.	Multiple conductor 0000 B. & S. to 500,000 c.m.	
12.0	7.0	12/64	12/64	33.8
14.0	8.1	13/64	13/64	36.6
15.0	8.7	14/64	15/64	39.4
17.0	9.9	15/64	15/64	42.2
19.0	11.0	16/64	16/64	45.0
20.0	11.6	17/64	17/64	47.8
22.0	12.8	18/64	18/64	50.6
24.0	13.9	19/64	19/64	53.4
26.0	15.1	20/64	20/64	56.3
27.0	15.7	21/64	21/64	59.1
29.0	16.8	22/64	22/64	61.9
30.0	17.4	23/64	23/64	64.7
32.0	18.6	24/64	24/64	67.5
33.0	19.1	25/64	25/64	70.3
35.0	20.3	26/64	26/64	73.1
*45.0	26.1	32/64	....	90.0
*75.0	43.5	48/64	....	135.0
*75.0	43.5	52/64	....	146.1

*Single-conductor, 500,000 to 750,000 c.m. only.
§Tests on all Type H cables are in accordance with Association of Edison Illuminating Companies Specifications.

(Continued on Next Page)

Varnished-cambric-insulated Cables

Varnished-cambric-insulated cable is used for power, heat or lighting circuits in central stations, substations, mines, steel mills, cotton mills and other industrial plants. It is commonly used for generator and motor leads and is especially well adapted for transformer and oil switch leads.

Varnished cambric insulation is not waterproof. If it is to be used where there is moisture, it should be lead encased. It may be used safely in damp places if the outer coverings are made extra heavy in the form of a rubber-filled tape and double cotton braid treated with weatherproof compound. Slow-burning braids or asbestos braids can be furnished in black, white or drab.

Varnished-cambric cable must be lead-sheathed when used under ground. If it is buried directly in the ground, used under water in short lengths or installed in mine shafts, flat steel tape armor is usually added over the lead sheath. If it is installed in a bore hole or as submarine cable where subjected to lateral strain, round wire armor is necessary.

It is especially recommended for use in preference to rubber-insulated cables where the operating temperatures are likely to be high.

The A.I.E.E. Standard (Rule 30-1 Oct. 1925) allows a maximum operating temperature of varnished cambric insulation at the conductor of $t = 75—E$; whereas for rubber insulation the maximum conductor temperature is given by $t = 60—\frac{E}{4}$

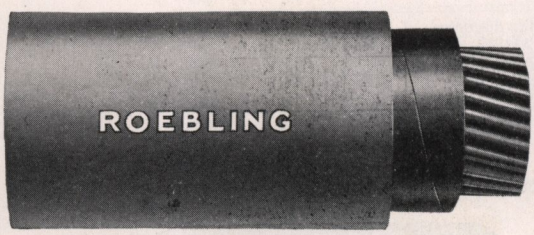
t = maximum temperature in degrees centigrade.
E = r.m.s. operating electromotive force in kilovolts between conductors in the case of multiple conductors, or between conductors and ground in the case of single-conductor cables.

Note—If a fraction of a degree results from this calculation, use the next higher even degree.

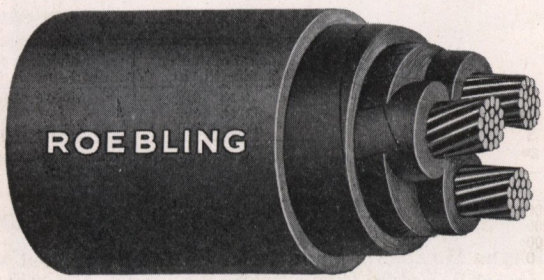
Varnished-cambric cables are not suitable for extra high voltage transmission because of the high power factor of the dielectric as compared with impregnated paper. It is, however, suitable for short runs where high temperatures prevail, but it is only used for over 13,200 volts on special services.

Varnished-cambric insulation is furnished on all sizes of conductors from 2,000,000 circular mils to No. 14 B. & S. gauge in braided or leaded finish, also with steel, zinc or bronze tape, or round steel wire armor.

The conductors are plain copper strand. A separator of paper or cloth will be furnished if required. The varnished cloth tapes are reversed in direction of lay at least every two layers. A thin layer of plastic non-hardening, insulating compound is applied between the reversed layers of tape, except in cables for vertical installation. The thickness of insulation, thickness of lead and test requirements applying to our standard varnished-cambric cables are all in accordance with the Insulated Power Cable Engineers Association's "Specification for Varnished Cambric Cables." A copy of this specification will be mailed upon request.



Single-conductor Stranded Varnished-cambric-insulated Cable



Three-conductor Stranded Varnished-cambric-insulated Cable

Steel-tape-armored Parkway Cable

Steel-tape-armored parkway cable is used for street lighting, police-fire alarm, traffic signal, railway signal, telephone and telegraph circuits, and for short power transmission connections.

This type cable provides a relatively inexpensive but effective means of eliminating unsightly overhead construction and the expense of a conduit and manhole system. It can be installed in long lengths with minimum expense for jointing. It has the advantage of adaptability for installation through irregular passageways without interfering with the long lengths, but it should not be bent at a radius shorter than six times its diameter.

Parkway cable is laid directly in the ground in a trench 12 to 18 in. deep and no wider than necessary. It need be only 3 or 4 in. under a hard pavement. Pipe conduit should be used under railroad crossings and a 2-in. creosoted plank cover should be used under roadways. If locations are particularly hazardous as to mechanical injury, the depth of the trench should be increased to 20 to 30 in. and the plank used in addition.

The sequence of application of materials used for Roebling standard construction Parkway Cable is as follows:

(1) Application of a coating of hot asphalt compound.

(2) A close wind of parallel ends of jute to give the required thickness of bedding under the tape armor.

(3) Application of hot asphalt compound.

(4) Two wraps of steel tape, both applied in the same direction. The outer wrap of tape is applied so it covers the space between the convolutions of the inner tape.

(5) Application of hot asphalt compound.

(6) A close wind of parallel ends of jute to give the required thickness of covering over the tape.

(7) Application of chalk or soapstone which will prevent the convolutions of cable from sticking together.

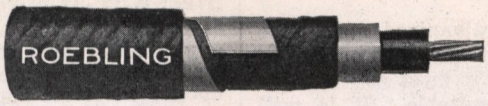
C.L.A.I. finish is the above armor applied over lead sheath. It can be applied to most any size of paper-insulated, varnish-cambric-insulated or rubber-insulated cables.

C.L.A. finish is over cable with lead sheath, but the metal tapes are omitted. This is sometimes applied to rubber-insulated cable for use in dry places.

The diameters and weights of finished cable given in the tables are for plain steel tape .020 in. thick. Other standard thicknesses of tape are .030 and .040 in.

Where corrosive soil conditions exist, galvanized steel tape, zinc, bronze or aluminum tape should be used. Zinc, bronze and aluminum tape are non-magnetic and permit the location of faults by an exploring coil.

The thickness of rubber insulation, lead sheath and plain steel tape armor given in the tables on the following page will be understood unless other definite specifications accompany an inquiry.



ROEBLING PARKWAY CABLE—RUBBER INSULATED
Single Conductor—Stranded and Solid
600 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	15000	19	5/64	3/64	.020	1139	2039	1500
000	15001	19	5/64	3/64	.020	1056	1605	1500
00	15002	19	5/64	3/64	.020	999	1422	1500
0	15003	19	5/64	3/64	.020	953	1269	1500
1	15004	19	5/64	3/64	.020	912	1141	1500
2	15005	7	4/64	3/64	.020	841	979	1500
4	15006	7	4/64	3/64	.020	750	688	1500
Solid Conductor								
6	15007	1	4/64	3/64	.020	680	552	1500
8	15008	1	3/64	3/64	.020	616	451	2000
10	15009	1	3/64	3/64	.020	589	403	2000
12	15010	1	3/64	3/64	.020	568	368	2500
14	15011	1	3/64	3/64	.020	551	333	2500

ROEBLING PARKWAY CABLE—RUBBER INSULATED
Single Conductor—Stranded and Solid
2500 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	15200	19	7/64	4/64	.020	1202	2184	1500
000	15201	19	7/64	4/64	.020	1144	1944	1500
00	15202	19	7/64	3/64	.020	1062	1543	1500
0	15203	19	7/64	3/64	.020	1016	1387	1500
1	15204	19	7/64	3/64	.020	975	1257	1500
2	15205	7	6/64	3/64	.020	904	1091	1500
4	15206	7	6/64	3/64	.020	844	923	1500
Solid Conductor								
6	15207	1	6/64	3/64	.020	743	638	1500
8	15208	1	6/64	3/64	.020	710	569	2000
10	15209	1	6/64	3/64	.020	683	516	2000
12	15210	1	6/64	3/64	.020	662	487	2500
14	15211	1	6/64	3/64	.020	645	457	2500



PARKWAY CABLE
Two-Conductor Flat—Stranded and Solid
600 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	15600	19	5/64	4/64	.020	1884	3842	1000
000	15601	19	5/64	4/64	.020	1768	3376	1000
00	15602	19	5/64	4/64	.020	1666	2702	1000
0	15603	19	5/64	4/64	.020	1574	2399	1000
1	15604	19	5/64	4/64	.020	1461	2145	1000
2	15605	7	4/64	3/64	.020	1319	1828	1500
4	15606	7	4/64	3/64	.020	1199	1309	1500
Solid Conductor								
6	15607	1	4/64	3/64	.020	1028	1032	1500
8	15608	1	3/64	3/64	.020	900	678	2000
10	15609	1	3/64	3/64	.020	846	591	2000
12	15610	1	3/64	3/64	.020	773	527	2500
14	15611	1	3/64	3/64	.020	739	480	2500

PARKWAY CABLE
Two-Conductor Flat—Stranded and Solid
2500 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	15800	19	7/64	5/64	.020	2042	4114	500
000	15801	19	7/64	5/64	.020	1894	3741	1000
00	15802	19	7/64	5/64	.020	1792	3226	1000
0	15803	19	7/64	5/64	.020	1700	2630	1000
1	15804	19	7/64	5/64	.020	1618	2379	1000
2	15805	7	6/64	4/64	.020	1445	2043	1500
4	15806	7	6/64	4/64	.020	1325	1711	1500
Solid Conductor								
6	15807	1	6/64	4/64	.020	1185	1207	1500
8	15808	1	6/64	3/64	.020	1088	1066	2000
10	15809	1	6/64	3/64	.020	1034	962	2000
12	15810	1	6/64	3/64	.020	992	887	2500
14	15811	1	6/64	3/64	.020	958	829	2500



PARKWAY CABLE
Three-Conductor—Stranded and Solid
600 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	16000	19	5/64	6/64	.020	2060	5952	500
000	16001	19	5/64	5/64	.020	1903	4832	500
00	16002	19	5/64	5/64	.020	1793	4261	500
0	16003	19	5/64	5/64	.020	1693	3777	1000
1	16004	19	5/64	5/64	.020	1605	3375	1000
2	16005	7	4/64	4/64	.020	1421	2579	1000
4	16006	7	4/64	4/64	.020	1291	2098	1500
Solid Conductor								
6	16007	1	4/64	4/64	.020	1140	1656	1500
8	16008	1	3/64	3/64	.020	970	1118	1500
10	16009	1	3/64	3/64	.020	912	977	1500
12	16010	1	3/64	3/64	.020	867	874	2000
14	16011	1	3/64	3/64	.020	830	797	2000

PARKWAY CABLE
Three-Conductor—Stranded and Solid
2500 Volts Maximum Working Pressure

Size B.&S. gauge	List No.	No. wires in condtr.	Thickness, in.			Finished outside diam., in.	Lb. per 1000 ft.	Std. pkg., ft.
			Rubber insulation	Lead sheath	Steel tape			
Stranded Conductor								
0000	16200	19	7/64	6/64	.020	2196	6411	500
000	16201	19	7/64	6/64	.020	2071	5669	500
00	16202	19	7/64	5/64	.020	1929	4645	500
0	16203	19	7/64	5/64	.020	1830	4157	1000
1	16204	19	7/64	5/64	.020	1741	3742	1000
2	16205	7	6/64	5/64	.020	1588	3218	1000
4	16206	7	6/64	4/64	.020	1427	2398	1500
Solid Conductor								
6	16207	1	6/64	4/64	.020	1276	1943	1500
8	16208	1	6/64	4/64	.020	1205	1717	1500
10	16209	1	6/64	4/64	.020	1146	1547	1500
12	16210	1	6/64	4/64	.020	1070	1221	2000
14	16211	1	6/64	3/64	.020	1033	1138	2000

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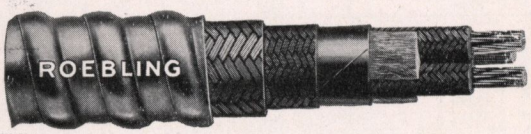
Roebling Lock Tape Armor

This is an interlocking single galvanized steel tape armor which can be applied to most any type or size of cable. It may be used underground in most any location where parkway cables would be suitable. It is well adapted for use over portable machinery connecting cables and on train control.

The advantages of this type armor are flexibility, lightness, resistance to crushing pressures and lateral strength.

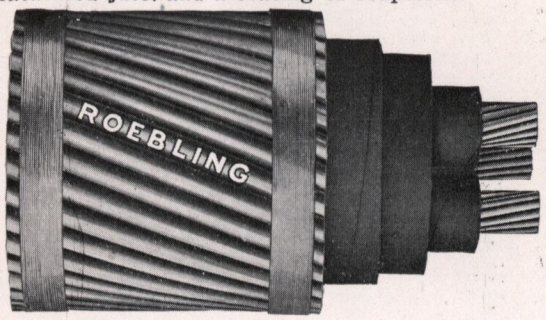
Over the lead sheath is a wrap of asphalt-saturated jute which serves as a bedding for the arched armor tape. The finish may be plain or with asphalted jute serving over all.

Details of construction and prices will be furnished upon application.



Steel-wire-armored Cable

Round galvanized steel wire can be applied to most any kind or size of cable irrespective of the type of insulation. The core may not be lead encased, depending upon the service conditions under which the cable is to be used. There is an application of asphalt compound over the core, a layer of saturated jute, a layer of asphalt compound, and then the wire armor. Over the armor may be applied a coating of asphalt, one or two servings of saturated jute, and a coating of soapstone.



N.E.C. Flexible Lamp and Portable Cords

Markers—All cords have tracers so that one conductor may be distinguished from the other all the way through the coil.

The tracers for cotton and silk cords consist of a different colored thread in the braid, and in reinforced cord, a white conductor.

The colors of the braid that we are prepared to furnish and the color of the tracer are given in the color code table.

Braid	Tracer	Braid	Tracer
Cotton Braids			
White	Green	Maroon	Black
Gray	Green	Blue	Black
Old Brass	White	Black	Maroon
Yellow	Green	Green and Yellow	Maroon
Oak	Olive	Green and Black	Old Gold
Light Brown	Olive	Red and White	Green
Olive	Oak	Blue and White	Maroon
Green	Old Brass	Red and Green	Black
Medium Brown	Olive	Maroon and Yellow	Green
Dark Brown	Olive	Black and Red	Old Gold
Red	Brown		

Glazed cotton is regularly furnished but soft cotton will be supplied if desired.

Rayon Braids			
White	Green	Green	Yellow
Gray	Green	Olive	Gray
Old Brass	Gray	Red	Brown
Yellow	Green	Maroon	Black
Rose	White	Blue	Black
Old Gold	Brown	Brown	Old Brass
Tiffany	Green	Black	Maroon

Silk floss braid is not carried in stock but will be supplied when required.

We Make Up for Stock—

Cotton cord, all sizes, green and yellow.
Cotton cord, No. 18 black.
Rayon cord in black, green, old brass, pearl and maroon.
Rayon parallel cord in brown, maroon, old brass, old gold and pearl.
For any other color, a delay of a week or two is necessary for braiding.



LAMP CORD—TYPE C

For pendant or portable use in dry places where it is not subject to hard usage. Two rubber-insulated stranded conductors are individually braided with cotton, silk or rayon, and twisted together.

Size, B.&S. gauge	Thickness of rubber, in.	Outer braid: Cotton braid: List No.	Cotton braid: Outside diam., in.	Cotton braid: Lb., 1000 ft.	Rayon braid: List No.	Rayon braid: Outside diam., in.	Rayon braid: Lb., 1000 ft.	Length, ft.: Coils	Length, ft.: Spools
10	3/64	20000	.243	107	20005	.223	105	250	...
12	3/64	20001	.219	76	20006	.199	74	250	...
14	3/64	20002	.203	57	20007	.183	54	250	...
16	1/32	20003	.156	33	20008	.136	31	250	250
18	1/32	20004	.146	26	20009	.126	24	250	250

Weight of silk cord is about the same as rayon.



PARALLEL CORD—TYPE PO

For use in dry places and where not subject to hard usage. No. 18 B. & S. gauge with 1/64-in. rubber is for use with portable lamp fixtures only. Two rubber-insulated stranded conductors, each with cotton braid, are laid parallel under a closing braid of cotton, silk or rayon.

Size, B.&S. gauge	Thickness of rubber, in.	Outer braid: Cotton braid: List No.	Cotton braid: Outside diam., in.	Cotton braid: Lb., 1000 ft.	Rayon braid: List No.	Rayon braid: Outside diam., in.	Rayon braid: Lb., 1000 ft.	Length, ft.: Coils	Length, ft.: Spools
10	3/64	20010	.263x.496	107	20015	.240x.470	107	250	...
12	3/64	20011	2.8x.446	76	20016	.215x.420	77	250	...
14	3/64	20012	.223x.416	58	20017	200x.390	57	250	...
16	1/32	20013	176x.322	34	20018	153x.296	33	250	250
18	1/64	20014	.132x.234	19	20019	.109x.208	17	250	250



TWISTED PORTABLE CORD—TYPE PD

For pendant or portable use in dry places and where not subject to hard usage. Two rubber-insulated stranded conductors, each with cotton braid, are twisted together and covered with a closing braid of cotton, silk or rayon.

Size, B.&S. gauge	Thickness of rubber, in.	Outer braid: Cotton braid: List No.	Cotton braid: Outside diam., in.	Cotton braid: Lb., 1000 ft.	Rayon braid: List No.	Rayon braid: Outside diam., in.	Rayon braid: Lb., 1000 ft.	Length, ft.: Coils	Length, ft.: Spools
10	3/64	20020	.481	110	20025	.455	110	250	...
12	3/64	20021	.431	79	20026	.405	79	250	...
14	3/64	20022	.401	59	20027	.375	58	250	...
16	1/32	20023	312	35	20028	.286	34	250	250
18	1/32	20024	.292	28	20029	.266	27	250	250

N.E.C. Flexible Lamp and Portable Cords (Cont'd.)



REINFORCED CORD—TYPE P

For pendant or portable use in dry places and where subject to hard usage. Two rubber-insulated stranded conductors, each covered with a cotton braid, are twisted together and covered with a rubber jacket not less than 1/64 in. thick. Outer covering may be cotton, silk or rayon.

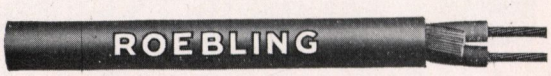
Size, B.&S. gauge	Thickness of rubber, in.	Outer braid: Cotton braid: List No.	Cotton braid: Outside diam., in.	Cotton braid: Lb., 1000 ft.	Rayon braid: List No.	Rayon braid: Outside diam., in.	Rayon braid: Lb., 1000 ft.	Length coil, ft.
10	3/64	20030	.511	174	20035	.491	170	500
12	3/64	20031	.461	131	20036	.441	128	500
14	3/64	20032	.431	105	20037	.411	103	500
16	1/32	20033	.342	64	20038	.322	62	500
18	1/64	20034	.263	38	20039	.243	37	500



MOISTUREPROOF REINFORCED CORD—TYPE PWP

For pendant or portable use in damp places. Two rubber-insulated stranded conductors, each covered with a cotton braid, are twisted together and covered with a rubber jacket not less than 1/64 in. thick and a cotton braid treated with weatherproof compound.

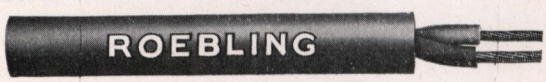
Size, B. & S. gauge	List No.	Thickness of rubber, in.	Outside diam., in.	Lb., 1000 ft.	Length coil, ft.
4	20040	1/16	.893	593	500
6	20041	1/16	.787	427	500
8	20042	3/64	.646	276	500
10	20043	3/64	.519	183	500
12	20044	3/64	.469	136	500
14	20045	3/64	.439	100	500
16	20046	1/32	.350	69	500
18	20047	1/64	.271	41	500



PLAIN RUBBER CORD—TYPE SJ

For portable use where not normally exposed to hard usage. Recommended for use in offices, dwellings and similar places, except for pendant use it should not be used outdoors, in manufacturing plants or garages. Conductors are insulated with 30% rubber compound, then twisted together with fillers and a 40% rubber compound belt applied over all.

Size, B.&S. gauge	Insulation thickness, in.: Conductors	Insulation thickness, in.: Belt	2-conductor: List No.	2-conductor: Outside diam., in.	2-conductor: Lb., 1000 ft.	3-conductor: List No.	3-conductor: Outside diam., in.	3-conductor: Lb., 1000 ft.	Length coil, ft.
16	1/32	1/32	20070	.328	63	20072	.378	89	500
18	1/32	1/32	20071	.297	53	20073	.328	74	500



PLAIN RUBBER CORD—TYPE S

For portable use where normally exposed to hard usage or to moisture, oils or other influences which would be detrimental to yarn coverings. Recommended for use in machine shops, garages, on portable tools and appliances for use outdoors. Insulation on the stranded conductors is 30% rubber compound; conductors are then twisted together with fillers and a 40% rubber compound belt applied over all.

Size, B.&S. gauge	Insulation thickness, in.: Conductors	Insulation thickness, in.: Belt	2-conductor: List No.	2-conductor: Outside diam., in.	2-conductor: Lb., 1000 ft.	3-conductor: List No.	3-conductor: Outside diam., in.	3-conductor: Lb., 1000 ft.	Length coil, ft.
14	3/64	3/33	20080	.547	163	20083	.578	217	500
16	1/32	3/64	20081	.422	95	20084	.453	125	500
18	1/32	3/64	20082	.406	83	20085	.422	108	500



BRAIDED HEAVY-DUTY CORD—TYPE K

For pendant or portable use in damp places and where subject to hard usage. The rubber-insulated stranded conductors are finished with weatherproof braid, then twisted together with suitable jute fillers and finished with a tape and a braid, or two cotton braids saturated with weatherproof compound. Individual conductors Nos. 4 to 8 B. & S. gauge are the same construction as flexible rubber-insulated wire; in Nos. 10 to 18 B. & S. gauge the individual conductors are the same construction as rubber-insulated lamp cord strand, but they are finished with a weatherproof braid.

The outer finish for Nos. 4 to 8 B. & S. gauge is a tape and a weatherproof braid; for Nos. 10 to 18 B. & S. gauge, the outer finish is two weatherproof braids.

The polarity marking in two-conductor cable is one white and one black conductor; for three-conductor cable, a red conductor is added.

Size, B.&S. gauge	Thickness of rubber, in.	2-conductor: List No.	2-conductor: Outside diam., in.	2-conductor: Lb., 1000 ft.	3-conductor: List No.	3-conductor: Outside diam., in.	3-conductor: Lb., 1000 ft.	Length, ft.: Coil	Length, ft.: Reel
4	1/16	20050	.908	485	20060	.995	665	...	1000
6	1/16	20051	.802	345	20061	.887	469	...	1000
8	3/64	20052	.645	221	20062	.706	298	...	1000
10	3/64	20053	.561	160	20063	.615	213	500	...
12	3/64	20054	.511	122	20064	.561	161	500	....
14	3/64	20055	.481	99	20065	.528	128	500	...
16	1/32	20056	.378	67	20066	.412	79	500	...
18	1/32	20057	.358	53	20067	.390	66	500	....



Style 1 Heater Cord



Style 2 Heater Cord



Style 5 Heater Cord

HEATER CORD

For use on portable heating apparatus rated at 50 watts or more, and which produce temperatures in excess of 121° C. (250° F.) on surfaces with which the cord is liable to come in contact.

Each conductor consists of fine copper wires insulated with a wrap of cotton, 1/64 in. of rubber compound and a wrap of asbestos yarn or roving. These conductors are assembled in various ways.

Style 1—Each conductor has a braid of black glazed cotton over the asbestos wrap. Two conductors are twisted together the same as lamp cord strand.

Style 2—Each conductor has a braid of black cotton over the asbestos wrap. Two conductors are twisted together and covered with an outside braid of black cotton the same as Type PD flexible cord.

Style 5—Two conductors without the cotton braid over the asbestos are twisted together the same as lamp cord and covered with an outer braid of black cotton.

Outer braids of special colors will be furnished in quantity orders.

Size, B.&S. gauge	List No.	Style No.	Outside diam., in.	Lb. per 1000 ft.	Length coil, ft.
14	20090	1	.361	44.1	500
	20091	2	.362	47.0	500
	20092	5	.337	44.4	500
16	20093	1	.325	32.3	500
	20094	2	.326	34.9	500
	20095	5	.301	32.6	500
17	20096	1	.311	28.0	500
	20097	2	.312	30.5	500
	20098	5	.287	28.1	500
18	20099	1	.295	24.2	500
	20100	2	.296	26.5	500
	20101	5	.271	24.2	500

Cut lengths of Heater Cord, either with or without terminals, will be furnished as required.

(Continued on Next Page)

N.E.C. Fixture Wire



FIXTURE WIRE

Consists of a solid or stranded flexible conductor insulated with rubber compound and finished with a closely-woven braid of cotton, silk or rayon of any color desired. For use in damp places, a cotton braid saturated with moistureproof compound is furnished.

Used for wiring lighting fixtures.

SOLID FIXTURE WIRE—WEATHERPROOF FINISH ONLY

Size, B. & S. gauge	List No.	Diam. conductor, in.	Thickness of rubber, in.	Outside diam., in.	Lb., 1000 ft.	Length coil, ft.
14	20110	.064	3/64	.181	25	1000
16	20111	.051	1/32	.136	15	1000
18	20112	.040	1/64	.095	9	1000

STRANDED FIXTURE WIRE—WEATHERPROOF FINISH ONLY

Size, B. & S. gauge	List No.	Wires		Thickness of rubber, in.	Outside diam., in.	Lb., 1000 ft.	Length coil, ft.
		No.	Size				
14	20113	7	.0242	3/64	.190	26	1000
16	20114	7	.0192	1/32	.146	17	1000
18	20115	7	.0151	1/64	.102	10	1000

FLEXIBLE FIXTURE WIRE

Size, B.&S. gauge	List No.	Wires		Thickness of rubber, in.	Outside diam., in.		Lb., 1000 ft.	Length coil, ft.
		No.	Size		C	R		
14	20116	26	28	3/64	203	183	28	500
16	20117	16	28	1/32	156	136	16	1000
18	20118	16	30	1/64	112	92	9	1000

Tags show the following type numbers—
RF-64 Fixture Wire with 1/64-in. insulation.
RF-32 Fixture Wire with 1/32-in. insulation.
RF-3/64 Fixture Wire with 3/64-in. insulation.
Maximum working voltage: 600 volts (3/64-in. insulation); 300 volts (1/32 and 1/64-in. insulation).

N.E.C. Heat-resisting Wire and Cord



Heat-resisting Fixture Wire



Heat-resisting Flexible Cord

HEAT-RESISTING FIXTURE WIRE AND FLEXIBLE CORD

Approved for use where temperature conditions do not exceed 90° C. (194° F. and the working pressure is not more than 300 volts. As single conductor it is known as Heat-resisting Fixture Wire, Type CF; as twisted cord it is known as Heat-resisting Flexible Cord, Type CFC.

The conductors are lamp cord strand, covered with two cotton braids filled with special flameproof compound which renders the insulation non-conducting, heat-resisting and moisture-repelling. Thickness of the insulating wall is 1/32 in. for all sizes, exclusive of any finishing braid.

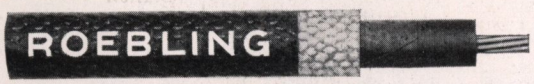
Outer covering of flexible cord is a closely woven dry cotton, silk or rayon braid either over individual conductors or over the twisted cord. Covering braids are not required for fixture wire, but may be used for the sake of appearance.

Size, B.&S. gauge	List No.	Wires		Thickness flameproof insulation, in.	Outside diam., in.		Lb., 1000 ft.		Length coil ft.
		No.	Size		Cotton	Silk	Cotton	Silk	
Heat-resisting Fixture Wire									
14	20120	26	28	1/32	.167	.145	27	26	1000
16	20121	17	28	1/32	.153	.131	21	20	1000
18	20122	17	30	1/32	.141	.119	17	16	1000
Heat-resisting Flexible Cord									
14	20125	26	28	1/32	.325	.285	56	52	250
16	20126	17	28	1/32	.290	.255	43	41	250
18	20127	17	30	1/32	.275	.235	34	32	250

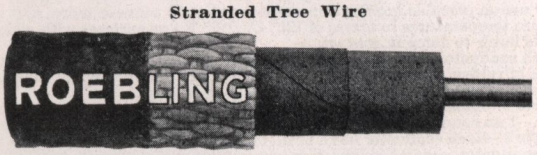
Tree Wire

Recommended for light and power circuits where the insulation is likely to become abraded from contact with swaying branches. It is used to prevent, as far as possible, arcing grounds which prove to be a great annoyance in radio reception and are very detrimental to trees.

The insulation is 30% ROEBLING Grade rubber compound. The finish is a rubber-filled tape and a heavy circular loom braid thoroughly saturated with waterproof compound.



Stranded Tree Wire



Solid Tree Wire

TREE WIRE

Size, B. & S. gauge	List No.	Number of wires	Rubber thickness, in.	Nominal outside diam., in.	Lb., 1000 ft.
Light Construction—M.H.D. 2500 Volts					
Stranded					
0000	20220	19	3/32	.946	962
000	20221	19	3/32	.888	800
00	20222	7	3/32	.832	677
0	20223	7	3/32	.786	568
1	20224	7	3/32	.736	481
2	20225	7	3/32	.700	410
4	20226	7	3/32	.635	305
Solid					
4	20227	1	3/32	.607	285
6	20228	1	3/32	.565	221
Standard Construction—M.H.D. 3500 Volts					
Stranded					
0000	20240	19	7/64	.977	996
000	20241	19	7/64	.919	815
00	20242	7	7/64	.863	705
0	20243	7	7/64	.817	596
1	20244	7	7/64	.770	507
2	20245	7	7/64	.734	435
4	20246	7	7/64	.666	321
Solid					
4	20247	1	7/64	.638	306
6	20248	1	7/64	.596	240

Motor Lead Cable

Used for leads to armatures and field coils of street railway motors. Built up to outside diameters which fit standard railway motor cable bushings. Conductors are tinned flexible strand insulated with a paper wrap and Code ROEBLING Grade rubber compound. Over the rubber insulation are 3 or 4 layers of tape or yarn covering to bring the wire up to required diameter. Braids are treated with moisture-resisting flameproof compound.



MOTOR LEAD CABLE

Size conductor	List No.	Actual diam. of conductor, cir. mils	Outside diam., in.	Lb., 1000 ft.	Length reel, ft.
250,000 c.m....	20200	249,000	1.072	1137	1000
0000 B. & S....	20201	213,080	.925	912	1000
000 B. & S....	20202	170,500	.923	795	1000
00 B. & S....	20203	133,935	.916	680	1000
0 B. & S....	20204	108,000	.742	525	1000
1 B. & S....	20205	85,500	.729	438	1000
2 B. & S....	20206	67,700	.709	372	1000
3 B. & S....	20207	57,300	.619	293	1000
4 B. & S....	20208	42,613	.585	259	1000
5 B. & S....	20209	33,795	.556	225	1000
6 B. & S....	20210	26,800	.487	163	1000
8 B. & S....	20211	15,800	.482	139	1000

Car Wire

Used for conduit and body lighting circuits in cars. Conductors are standard or flexible strands. Insulation consists of a paper separator and code thickness of rubber compound.

The finish is a tape and a braid on sizes 4/0 to 0 B.&S. gauge and double braid on sizes 1 to 14 B.&S. gauge inclusive.



CAR WIRE

Size, B.&S. gauge	Thickness of rubber, in.	Strand			Flexible			Length, ft.	
		List No.	Outside diam., in.	Lb., 1000 ft.	List No.	Outside diam., in.	Lb., 1000 ft.	Coil	Reel
0000	5/64	20160	.779	816	20180	.863	848	...	1000
000	5/64	20161	.721	667	20181	.798	695	...	1000
00	5/64	20162	.670	547	20182	.736	571	...	1000
0	5/64	20163	.624	452	20183	.678	478	...	1000
1	5/64	20164	.613	386	20184	.662	408	...	1000
2	1/16	20165	.542	310	20185	.589	329	...	1000
3	1/16	20166	.466	228	20186	.508	241	...	1000
4	1/16	20167	.438	187	20187	.462	189	500	....
5	1/16	20168	.413	156	20188	.434	157	500	....
6	1/16	20169	.390	131	20189	.409	132	500	....
8	3/64	20170	.305	83	20190	.320	82	500	....
10	3/64	20171	.275	58	20191	.278	59	500	....
12	3/64	20172	.251	43	20192	.253	44	500	....
14	3/64	20173	.232	33	20193	.233	33	500	....

Elevator Cable

Elevator Lighting Cable—Consists of two conductors, No. 14 B.&S. gauge lamp cord strand, with 3/64 in. rubber insulation, covered with a dry cotton braid, one white and one black.

The conductors are laid up with suitable fillers and enclosed with a cotton braid, a tape, and a cotton weatherproof braid.

This construction carries Underwriters' stamps.



ELEVATOR LIGHTING CABLE—TYPE E

Size, B. & S. gauge	List No.	Thickness of rubber, in.	Outside diam., in.	Lb., 1000 ft.	Length, ft.	
					Coil	Reel
14	20130	3/64	.480	97	500	1000

Elevator Control Cable—Conductors are No. 16 B.&S. gauge lamp cord strand with 1/32 in. rubber, each covered with a dry colored braid. Conductors are coded to facilitate connecting up.

Desired number of conductors are cabled with suitable fillers and supporting strands properly distributed throughout this assembly to round out the cable, and give proper trailing of the cable.

Coverings over assembled conductors are a braid, a tape, and a weatherproof braid.



ELEVATOR CONTROL CABLE—TYPE E

No. of conductors	List No.	Outside diam., in.	Lb., 1000 ft.	Length per reel, ft.
4	20140	.495	105	1000
6	20141	.595	146	1000
8	20142	.706	198	1000
10	20143	.750	241	1000
12	20144	.803	282	1000

Above sizes are used mostly. Other conductor cables can be furnished promptly.

Elevator Annunciator Cable (Cotton Insulated)—Conductors are No. 18 B.&S. gauge lamp cord strand, insulated with a wrap and a braid of dry cotton. In each layer one conductor is braided with red cotton to serve as a marker. Outside finish is a braid of dry cotton and a braid of black glazed cotton saturated. These cables do not carry Underwriters' stamps.



ELEVATOR ANNUNCIATOR CABLE

No. of conductors	List No.	Outside diam., in.	Lb., 1000 ft.	Length per reel, ft.
6	20150	.335	54	1000
8	20151	.408	73	1000
10	20152	.424	83	1000
12	20153	.438	98	1000

Above sizes are used mostly. Other conductor cables can be furnished promptly.

Mining Machine Cables

The individual stranded conductors are made the same as flexible rubber-covered wires which comply with the Underwriters' requirements for 600-volt service. Conductors are assembled into duplex, round or concentric cables with heavy yarn coverings.



DUPLEX MINING MACHINE CABLE

Two rubber-insulated stranded conductors are laid side by side and covered over all with two heavy weatherproofed braids, the outer of which is hard twine.

Size, B.&S. gauge	List No.	Strand construction	Thickness rubber, in.	Outside diam., in.	Lb., 1000 ft.	Length reel, ft.
2	20260	19x7x23 B.&S.....	1/16	.667x1.171	684	1000
3	20261	19x7x24 B.&S.....	1/16	.630x1.097	575	1500
4	20262	7x7x21 B.&S.....	1/16	.584x1.005	474	1500
5	20263	7x7x22 B.&S.....	1/16	.556x .949	404	1500
6	20264	7x7x23 B.&S.....	1/16	.531x .899	350	1500
8	20265	7x7x25 B.&S.....	3/64	.451x .739	242	1500



CONCENTRIC MINING MACHINE CABLE—CLASS A

The conductor, insulated the same as for duplex cable, has a second copper conductor applied over it in the form of a layer of wires. Over the outer conductor is a layer of rubber compound (equal in thickness to the rubber on the inner conductor) and two weatherproof braids, the outer one of which is heavy twine.

Size B. & S. gauge	List No.	Stranding of inner conductor	Thickness rubber insulation in.	Stranding of outer conductor	Thickness rubber belt, in.	Outside diam., in.	Lb. 1000 ft.	Length reel, ft.
0	20290	19x7x21 B.& S.	5/64	26x14 B.& S.	7/64	1.062	1102	1000
1	20291	19x7x22 B.& S.	5/64	26x15 B.& S.	7/64	1.002	931	1000
2	20292	19x7x23 B.& S.	1/16	26x16 B.& S.	3/32	.886	722	000
3	20293	19x7x24 B.& S.	1/16	26x17 B.& S.	3/32	.837	612	000
4	20294	7x7x21 B.& S.	1/16	26x18 B.& S.	3/32	.781	511	1500
5	20295	7x7x22 B.& S.	1/16	26x19 B.& S.	3/32	.745	442	1500
6	20296	7x7x23 B.& S.	1/16	26x20 B.& S.	3/32	.712	386	1500
8	20297	7x7x25 B.& S.	3/64	26x22 B.& S.	5/64	.595	261	1500

(Continued on Next Page)



TWO OR THREE-CONDUCTOR ROUND MINING MACHINE CABLE

Conductors are twisted together with saturated jute fillers and covered over all with a cambric tape and two weatherproof braids, the outer of which is heavy twisted cord. These cables have the advantage of flexibility.

Size B. & S. gauge	2-conductor					3-conductor			
	List No.	Outside diam., in.	Lb. 1000 ft.	Length reel, ft.	Reel No.	List No.	Outside diam., in.	Lb., 1000 ft.	Length reel ft.
2	20270	1.191	827	1000	5B	20280	1.271	1106	1000
3	20271	1.117	707	1000	7	20281	1.191	929	1000
4	20272	1.037	560	1000	7	20282	1.104	758	1000
5	20273	.969	470	1000	7	20283	1.044	623	1000
6	20274	.919	409	1000	7	20284	.978	546	1000
8	20275	.757	283	1000	7B	20285	803	354	1000

Mine Locomotive Cable

This cable has a flexible conductor insulated with a very durable rubber compound and two weatherproof braids. The inner braid is open so the rubber can adhere tightly to the outer hard twine braid, thus preventing fraying in case the braid is accidentally cut.



MINE LOCOMOTIVE CABLE, EXTRA FLEXIBLE

Size, B. & S. gauge	List No.	Strand construction	Thickness insulation, in.	Outside diam., in.	Lb., 1000 ft.	Length reel, ft.
2	20300	7x30x25 B.& S.	3/32	.638	351	1000
3	20301	7x24x25 B.& S.	3/32	.602	297	1000
4	20302	7x19x25 B.& S.	3/32	.568	245	1000
5	20303	7x15x25 B.& S.	3/32	.538	211	1500
6	20304	7x12x25 B.& S.	3/32	.513	183	1500
8	20305	7x7x25 B.& S.	5/64	.427	130	1500



MINE LOCOMOTIVE CABLE, EXTRA FLEXIBLE LOOM SHEATH BRAID

Locomotive cable can also be supplied with a durable loom braid. This cable possesses greater wearing qualities and costs more because of the heavier covering.

Size, B. & S. gauge	List No.	Strand construction	Thickness insulation in.	Outside diam., in.	Lb., 1000 ft.	Length reel, ft.
2	20310	7x30x25 B.& S.	1/32	.740	465	000
3	20311	7x24x25 B.& S.	1/32	.704	414	000
4	20312	7x19x25 B.& S.	1/32	.670	350	000
5	20313	7x15x25 B.& S.	1/32	.640	317	1500
6	20314	7x12x25 B.& S.	1/32	.615	282	1500
8	20315	7x 7x25 B.& S.	7/64	.561	217	1500

Arc Welding Machine Cable

This cable forms the circuit between generator and electrode holder.

Trailing Cable—Consists of a single tinned rope lay stranded copper conductor (regular flexible strand or the more flexible pigtail strand), in sizes 4/0 to 2 B. & S. gauge, insulated with code thickness of rubber or varnished cambric and finished with two cotton braids (or one cotton braid, or a heavy cotton loom braid, or a seine twine braid). All braids are thoroughly impregnated with weatherproof compound.

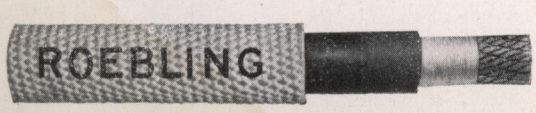
Electrode Holder Cable—Used in 6 to 12-ft. lengths between end of trailing cable and the electrode holder.

Consists of an extremely flexible stranded tinned copper conductor in sizes 4/0 to 2 B. & S. gauge with two styles of covering:

Style B—a heavy cotton braid and a heavy durable seine twine braid saturated with moisture-proof compound.

Style R—a wrap of cotton, a heat-resisting rubber compound, an open cotton braid and a heavy durable seine twine braid saturated with moisture-proof compound.

Style B is more flexible than Style R, the latter being for use in circuits exposed to damp conditions.



Arc Welding Trailing Cable



Electrode Holder Cable

Other Roebling Electrical Wires and Cables

Aircraft Wire and Cable
Armature Leads
Automotive Ignition Cables
Automotive Lighting Cables
Automotive Starting Cables
Battery Wire
Brush Cable
Car Jumper Wire
Copper Clad Wire
Drop Wire
Fireproof Wire and Cable
Motor Boat Cable
Railway Signal Wire and Cable
Switchboard Wire and Cable
Telephone and Telegraph Wire and Cable
Traffic Control Cable
Vacuum Cleaner Cord
Neon Light Sign Cable
Motion Picture Wire and Cable

Cable Accessories and Tools

The following accessories for the installation of power, lighting and telephone cables have been used and furnished by us for many years in installing large cable systems.

Tape—Cambric tape, 1 in. wide and 12 to 8 mils thick; straight or bias cut.

Rubber tape, 1 in. wide and 3/32 in. thick. Put up in rolls of about ¾ lb.

Friction tape, ¾ in. wide.

Impregnated paper tape, .004 in. thick by 1 in. wide; .008 in. thick by 1¼ in. wide.

Compounds—Three kinds—one for filling potheads in power cables, another for filling joints in cables, and another for filling potheads on telephone and telegraph cables.

All put up in 1-gal. cans holding about 8 lb. each.

Copper Sleeves—Made in lengths from 1 to 6 in., in thicknesses from 3/64 to 16/64 in., and in diameters from 5/32 to 2⅛ in., for cables from No. 8 B. & S. gauge to 2,500,000 circular mils.

Lead Sleeves—Made in lengths from 8 to 30 in., in ⅛ to 3/16 in. thicknesses, and in diameters from 1 to 5 in.

Mica Insulating Tubes—For high tension power splicing of potheads and cable terminals. Made in 10 to 18 in. lengths, in ¾, 1⅛ and 1½ in. diameters, and in ¼ and ⅜ in. wall thicknesses.

Miscellaneous Cable Accessories—

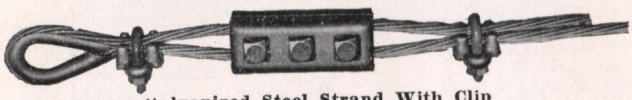
Wire Rope for Pulling Cables
Solder and Soldering Flux
Marlin Cable Hangers
Metal Cable Hangers
Wire and Steel Cable Pulling Grips
Duct Bells and Protectors
Cable Protectors, Terminals, Belling Tools and Benders
Paper Cable Sleeves
Complete Cable Splicing and Pulling Outfits
Complete Lineman's Outfits

Galvanized Steel Strand

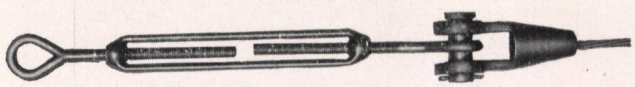
Used in the electrical field for guying transmission line, telegraph and telephone poles; for supporting transmission, signal and telephone cables and trolley wire in overhead construction; for use as ground wire for protecting transmission lines from lightning; also for use as long-span power conductors.



Galvanized Steel Strand With Clip and Thimble Connection



Galvanized Steel Strand With Clip and Clamp Connection



Galvanized Steel Strand With Socket and Turnbuckle Connection

Made with either 7 or 19 wires twisted together, in the four grades listed in the table below.

We also manufacture a complete line of thimbles, clips, clamps and turnbuckles for use with galvanized wire strand.

PROPERTIES OF GALVANIZED STEEL WIRE STRAND

Approx. diam., in.	Wires No.	Wires Diam., mils	Lb. 1000 ft.	Approximate breaking strength, lb. Common	Siemens-Martin	High strength	Extra high strength
1	19	200	2073	28700	47000	73200	104500
7/8	19	177	1581	21900	35900	55800	79700
3/4	19	150	1155	16000	26200	40800	58300
5/8	19	125	796	11000	18100	28100	40200
9/16	19	113	637	9640	16100	24100	33700
1/2	19	100	504	7620	12700	19100	26700
5/8	7	207	813	11600	19100	29600	42400
9/16	7	188	671	9600	15700	24500	35000
1/2	7	165	517	7400	12100	18800	26900
7/16	7	145	399	5700	9350	14500	20800
3/8	7	125	296	4250	6950	10800	15400
5/16	7	104	205	3200	5350	8000	11200
9/32	7	95	164	2570	4250	6400	8950
1/4	7	80	121	1900	3150	4750	6650
7/32	7	72	98.3	1540	2560	3850	5400
3/16	7	62	72.9	1150	1900	2850	3990
5/32	7	52	51.3	870	1470	2140	2940
1/8	7	41	31.8	540	910	1330	1830

Minimum elongation in 24 in.
Common..... 10%
Siemens-Martin..... 8%
High Strength..... 5%
Extra High Strength..... 4%

Arc Welding Electrodes

Roebling arc welding electrodes have a high reputation of many years' standing throughout the world. They are uniform in quality throughout all shipments and make strong and tough welds with minimum time and labor.

Made in the grades described below. All grades shipped in burlapped bundles of 50 lb. each, unless otherwise specified.

Samples sent on request.

Standard Low Carbon Electrodes—Can be used with all makes of electric welding equipment.

Analysis—carbon, 0.13% to 0.18%; manganese, 0.40% to 0.60%; sulphur, phosphorus and silicon, negligible. Special analyses can be furnished.

Standard diameters—5/16, 1/4, 3/16, 5/32, 1/8, 3/32, 1/16 and 3/32 in. Other diameters made special.

Standard length—14 in.

Special Annealed Low Carbon Electrodes—Can be used with all makes of electric welding equipment. For use where it is desired to slightly sacrifice strength and ductility in the weld to obtain easier welding or where a slightly insufficient amperage is available. Penetration secured is less than that obtained with standard low carbon electrodes.

Analysis—carbon, 0.08% to 0.13 %; manganese, 0.20% to 0.40%; sulphur, 0.04% maximum; phosphorus, 0.40% maximum; silicon, trace. Special analyses can be furnished.

Standard diameters—1/4, 3/16, 5/32, 1/8, 3/32 and 1/16 in. Other diameters made special.

Standard length—14 in. Other lengths, or wire in coils, made special.

Standard High Carbon Electrodes—For use where it is necessary to secure a greater strength or resistance to abrasion in the welds, which are not to be machined but which can be ground to size. Made from highest quality acid open hearth steel.



Analysis—carbon, 0.90% to 1.00%; sulphur and phosphorus, 0.04% maximum. Deposited metal in ordinary practice will analyze about 0.60% carbon.

Standard diameters—1/4, 3/16, 5/32 and 1/8 in.

Standard length—36 in.

Special High Carbon Electrodes—For use where the standard direct-current motor-generator set is not available for welding. The welds obtained are not machinable, but must be ground to size.

Analysis—same as that of the Standard High Carbon Electrodes, but through special heat treatment they have higher conductivity and make sounder welds under variable current conditions.

Standard diameters—1/4 and 3/16 in. Other diameters made special.

Standard length—36 in. Other lengths made special.

Special High Manganese Steel Electrodes—For use where extreme hardness and toughness are required in the weld, which must be ground to size—not machined. The deposited metal hardens with great toughness when suddenly cooled, as in quenching.

Analysis—carbon, 1.00% to 1.30%; manganese, 11.00% to 14.00%. Analysis of deposited metal is usually from .70% to .85% carbon and 10.00% to 11.00% manganese.

Standard diameters—1/4 and 3/16 in. Diameters of 5/32 and 1/8 in. furnished special.

Standard length—18 in.; other lengths made special.

Welding Wire for Automatic or Semi-automatic Arc Welding—Furnished in the same analysis and quality as Standard Low Carbon Electrodes.

Furnished in diameters of 1/2, 7/16, 3/8, 5/16, 1/4, 3/16, 5/32, 1/8, 3/32, 1/16 and 3/32 in. and in straight lengths as specified, or in coils weighing from 200 to 50 lb. each. The coils of wire are furnished on specially designed reels, which prevent the wire from kinking, deforming or tangling.

Roebling Gas Welding Wire

Roebling (American Iron) Welding Wire for acetylene (gas) welding is 99.75% pure iron. Standard material is copper coated to distinguish it readily from wire for electric welding. Furnished, for quick shipment, in 3/8, 5/16, 1/4, 3/16, 5/32, 1/8, 3/32 and 1/16-in. diameters. Standard length, 36 in. Other diameters and lengths can be furnished on special orders. Gas Welding Wire in straight lengths is shipped in burlapped bundles of 50 lb. each. When ordered in coils, burlapped bundles of approximately 100 lb. each are shipped.

Roebling Gas Welding Wire is pure, uniform, soft, tough, free from occluded gases and oxides, and free from injurious surface imperfections or mechanical faults of all kinds. It conforms in analysis to Specification G-No. 1 A of the American Welding Society.

ROME WIRE CO.

DIVISION OF GENERAL CABLE CORPORATION

Manufacturers of Electrical Wires and Cables

Mills and Executive Offices

ROME, N. Y.

Diamond Branch, BUFFALO, N. Y.

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*NEW YORK, N. Y. ..... 420 Lexington Ave.	*DETROIT, MICH. ..... Room 1017 Fisher Bldg.
*BOSTON, MASS. ..... A. D. Stein, 156 Purchase St.	*CHICAGO, ILL. ..... 105 W. Adams St.
PHILADELPHIA, PA. ..... 123 S. Broad St.	PITTSBURGH, PA. ..... 1714 Koppers Bldg.
ATLANTA, GA. ..... 1526-27-28 Healey Bldg.	*CLEVELAND, OHIO ..... 1200 W. Ninth St.
BIRMINGHAM, ALA. ..... 1306 Watts Bldg.	*CINCINNATI, OHIO .... 920 Chamber of Commerce Bldg.
CHARLOTTE, N. C. ..... 1513 First National Bank Bldg.	ST. LOUIS, MO. ..... 1213 Ambassador Bldg.
*LOS ANGELES, CAL. ..... 939 E. 4th St.	*SAN FRANCISCO, CAL. ..... 465 Tenth St.
SEATTLE, WASH. ..... 309 Central Bldg.	

Southwestern Representatives, Jenkins & Gunther, *Dallas, Texas, Santa Fe Bldg.

WESCO COMPANY
*DENVER, COLO., 7th & Lawrence Sts.

Rome Wires and Cables—Backed by 25 Years of Experience and Service

Aircraft Wires and Cables
Antenna Wire
Automobile Wire and Cable
Bare Copper Wire and Cable
Barkhide Tree Wire
Control Cable
"Enterite" Service Cable
Extra Flexible Wire and Cable
Flexible Wire and Cable
Heater Cord
Lamp Cord, (Cotton and "Rome Glos")
Lead Covered Cable
Locomotive Gathering Cable and Headlight Wire
Magnet Wire
Mining Machine Cable
Piano Covering Wire
Power Cable (Solid or Stranded)
Radio Wires and Assemblies
Rods (Black or Cleaned)
Rome Precision Coils
Rome Shielded Ignition Manifolds
Romex—Non-metallic Sheathed Cable
Rubber Covered Wire:
  Code
  Intermediate
  30%
Ruffcoat Tree Wire
Signal Wire and Cable
Slow Burning Wire
Special Flexible Cords
Special Wires and Cables
Steel Taped Parkway Cable
Super Service Cords and Cables
Telephone Wire
Tinned Copper Wires and Cables
Tree Wire
"Trenchlay" Non-metallic Sheathed Underground Cable
Trolley Wire
Weatherproof Wire
Wire Assemblies

Rome Rubber Insulated Wires and Cables

Four standard grades of insulation are used in the manufacture of Rome Rubber Covered Wires and Cables—30% dry mineral grade, 30% Neptune grade, Intermediate grade and National Electrical Code grade. Other types of compound are furnished to meet special service requirements.

30% Dry Mineral Grade

This insulation contains only the highest quality dry mineral fillers, compounded with selected Hevea rubber. It passes all specifications of A.R.A., A.S.T.M., A.I.E.E., etc.

30% Neptune Grade

This insulation contains at least 30% of unused Hevea rubber, compounded with suitable fillers to give an insulation of remarkable aging properties, high physical and electrical characteristics. It is specified for the same type of service as a 30% dry mineral, and meets all specifications except as to chemical analysis.

Intermediate Grade

This insulation is known as "Triton" and contains 25% rubber. It has gained increased popularity among those who are desirous of securing a wide margin of safety, higher di-electric strength, and better aging qualities than are offered by the use of code wire. It is compounded of exceptional aging qualities.

National Electrical Grade

Made from material selected and compounded as are higher grade insulations, resulting in a product which exceeds the National Board of Fire Underwriters requirements by a wide margin.

Rome Trenchlay Non-Metallic Sheathed Underground Cable

Designed particularly for secondary circuits, rural extensions, street lighting circuits, airport lighting and all low and medium-voltage underground installations. It is especially adapted to higher-amperage street lighting circuits.

Trenchlay differs from all other underground cables. Older forms were built by adding one or more protective sheaths to existing cable structures. Instead of depending on a single thickness of some easily punctured material, the whole structure of Trenchlay is a plastic, time-



defying seal. It is built from the most highly refined forms of the best materials resistant to rot, moisture, acid and alkalis. Under the tough, outer sheaths of Trenchlay Cable is a homogeneous anhydrous structure that is tough and flexible and unaffected by the heavy strains of installation.

Water cannot reach the "vitals" of Trenchlay from the outside, for the conductors are completely sealed in an asbestos sheath impregnated with asbestos base caulk that is impervious to water. Nor will water wick in from open ends, cuts or abrasions. The fibre sheaths are too well filled—too well saturated with long-life compounds.

Trenchlay is unaffected by earth acids or alkalis. It will not corrode, rust or crystallize. Electrolysis, stray currents, and sheath loss troubles have been entirely eliminated.

Trenchlay is 68% lighter than steel-taped cable. It is far more flexible than any metal-sheathed cable. Can be installed without a specially trained crew and costs much less.

Rome Trenchlay Control Cable and Signal Cable are manufactured with the same exclusive asbestos sheath and asbestos base caulk.

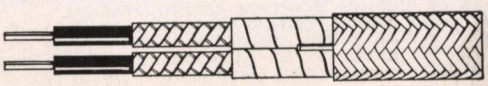
Rome Steel-taped Parkway Cable

The construction consists of a rubber-insulated, lead-covered conductor, over which is a bedding of thoroughly saturated jute protected by two overlapping plain steel tapes. Over the steel tapes there is a final serving of thoroughly saturated jute. All jute used in Rome Parkway Cable is thoroughly saturated previous to its becoming a part of the finished cable. This is an exclusive feature that assures long life. The two-conductor type is manufactured with conductors parallel, while in multiple-conductor types the conductors are twisted.

RomeX Non-Metallic Sheathed Cable

In RomeX, the individual copper conductors are insulated with the required thickness of code rubber and sheathed with two tightly applied wraps of laminated kraft paper, the inner wrap being finished in colors for ready polarity identification.

In all types of RomeX, the assembled conductors are stoutly sheathed with triple weight braid, carefully saturated with special fire and moisture resistant compounds. and carefully treated with a sized blue mica finish that makes RomeX clean to handle and easy to fish.



Rome Super Service Cords and Cables

Rome Super Service construction gives strength and durability not even approximated by other rubber-sheathed cords. No service is too severe—it stands up where others fail.

Note how each feature has been developed to obtain maximum flexibility, to insure the greatest insulating value, to provide the utmost endurance and strength, to guarantee performance under all conditions and to insure identification—you can feel for the name, it is there: *Super Service.*

Features

(1) Each conductor built up of very fine soft-drawn, annealed copper wires, free from splices, scales and other imperfections, which assures maximum flexibility.

(2) *A close wound cotton thread,* evenly applied, separates the conductor from the rubber insulation.

(3) Standard code thickness of 30% *high grade selected rubber* forms a tough, elastic insulation which adheres closely to the cotton separator.

(4) The rubber insulation on the individual conductors is protected with a *closely woven braid,* each having a distinctive marker thread to show polarity. Underwriters' specifications do not require braid over individual conductors, but "Super Service" has both for added protection.

(5) *Strong cotton reinforcing cords* separate and cushion the conductors and keep the wire perfectly round. Soft and shock absorbing, they add greatly to the strength of the wire without affecting its flexibility.

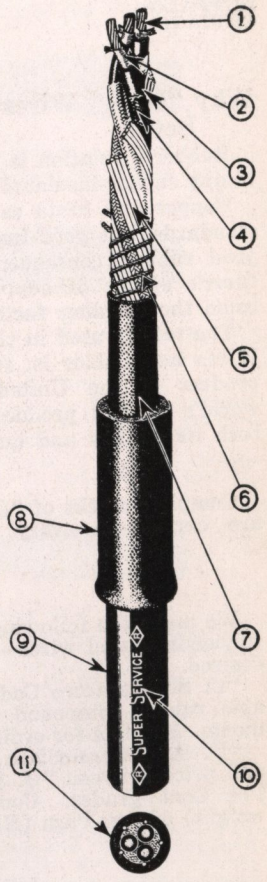
They protect against strains and elongations of the copper conductors, assuring long and uninterrupted service.

(6) A series of strong, *spirally wound seine twine cotton cords.* They add to tensile strength, oppose kinking, and aid the naturally tough rubber to resist stripping.

(7) The first layer of 60% *high grade selected Super Service* rubber, a tough resilient high grade tire stock. In our vulcanizing process under pressure, it grips fast the braided covering of the individual conductors and the cotton filler threads. This resists twists and kinks, making the wire lie flat.

(8) *Before vulcanization*—The cord and cable are insulated with a double thick outer jacket of 60% pure rubber, and placed in steel molds under tons of pressure. Notice the thick insulation before it passes through the molds.

(9) *After vulcanization*—The outer jacket is compressed into a tough dense protective covering, absolutely waterproof and highly resistant to oils and acids. It is tough and long-wearing, flexible and non-kinking.



(10) When the cord or cable is vulcanized *the name Super Service* is molded into it every twenty feet. Feel for the name. This name stands for quality—accept no substitute.

(11) Remember, also, every foot of "Super Service" is twice hand inspected. The conductors, insulation, reinforcing, and outer jackets are *always absolutely centered.* Cut a length of "Super Service" anywhere, and see how accurate is this centering—no thin spots to break down in use. The only process that guarantees a perfectly centered rubber jacket.

Rome N.E.C. Lamp and Flexible Cords

Single Conductor Flexible Fixture Wire—Primarily designed for fixture work where it is necessary to have wires harmonize with color of fixtures.

Type C Twisted Pair Flexible Lamp Cord—For pendant use in dry places where not subject to hard usage.

Type PO Parallel Flexible Lamp Cord—For use on portable lamps only, where not subject to hard usage.

Type PD Cord—For portable or pendant use in dry places where not subject to hard usage.

Type P Reinforced Cord—For pendant or portable use in dry places, where not subject to hard usage.

Type PWP Moistureproof Reinforced Cord—For pendant or portable use in damp places.

Type K Packinghouse Cord and Stage Cable—For portable use in damp places where likely to be subjected to rough usage.

Diamond Crown Heater Cord—For use in connection with all types of portable heating equipment and appliances.

UNITED STATES RUBBER COMPANY

The World's Largest Producer of Rubber

Manufacturers of Electrical Wires, Cables and Tape

Executive Offices

1794 Broadway, New York, N. Y.

Branches in the Following Cities

ATLANTA, BALTIMORE, BIRMINGHAM, BOSTON, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, COLUMBUS, DALLAS, DENVER, DETROIT, INDIANAPOLIS, KANSAS CITY, MEMPHIS, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, OMAHA, PHILADELPHIA, PITTSBURGH, ROCHESTER, ST. LOUIS, SYRACUSE, TOLEDO, LOS ANGELES, PORTLAND, SACRAMENTO, SALT LAKE CITY, SAN FRANCISCO, SEATTLE, SPOKANE

Why "U. S." Wires and Cables are Better

Rubber insulation is the most important part in any rubber-insulated wire or cable.

Copper and braid can be made to the same standards, but *good* insulation must come from *good* rubber, consequently any wire manufacturer's source of supply must necessarily become the deciding factor in the quality of his product.

The rubber used in the insulation of "U. S." Paracore Wires and Cables is, from cultivation to application, a product of the United States Rubber Company, the world's largest producer of rubber, which guarantees both its quality and quantity uniformity.

The Rainbow Line of Rubber-insulated Wires and Cables

The Rainbow Line of "U. S." Paracore Wires and Cables is a complete line of colored, rubber-insulated wires and cables with a "slicked" finish.

The outstanding merits of these wires are:

(1) Positive color identification—saves ⅓ the time in circuit tracing and line testing. Provides a permanent marked system of wiring so that alterations and additions may be made with a minimum of tearing out and rebuilding after a building is completed.

(2) 50% easier pulling—tests have proved that "U. S." Rainbow Wires are 50% easier pulling due to their special finish.

Furnished in sizes 18 A.W.G. to 1,000,000 Circular Mill in three grades—Code, Intermediate and 30%.

Exceptional Service Facilities

Complete stocks of "U. S." Paracore Wires and Cables are carried in every industrial center. Information, prices, delivery of merchandise, etc., can be secured from the "U. S." Branch near you.

Catalog Sent on Request

Grades of "U. S." Rubber Insulation

We make the following grades of rubber compound for rubber-insulated wires—specify on all orders the grade desired.

"U. S." Paracore Code Grade—A high grade dependable rubber compound that exceeds the Code requirements. Suitable for ordinary service.

"U. S." Intermediate Grade—Intermediate in quality and price between "U. S." Paracore and "U. S." Thirty Per Cent grades. Contains not less than 25% (by weight) of new Para (Hevea) rubber. Specially designed to meet the demand of architects and engineers, for use in their better buildings where a larger factor of safety is desired than can be obtained from code wire.

"U. S." Thirty Per Cent Grade—A high grade of rubber compound. Contains not less than 30% (by weight) of new Para (Hevea) rubber, scientifically compounded by the best known methods.

We also manufacture special grades in accordance with any specification, for any purpose.



"U. S." Paracore Rubber-insulated and Braided Wire and Cable

For Voltages Up to 600—A very high grade product consisting of a single, soft drawn, uniformly tinned, solid or stranded copper conductor insulated with N.E.C.S. rubber compound and covered with a high grade soft cotton braid that is thoroughly saturated with weatherproof wax and highly polished. Sizes: Single braid, solid or stranded—4, 6, 8, 10, 12, 14, 16 and 18 A.W.G. gauge; double braid, solid—4, 6, 8, 10, 12, 14, 16 and 18 A.W.G. gauge. Double braid, stranded—from 2,000,000 to 250,000 circular mils, and from 4/0 to 14 A.W.G. gauge.

For 2,500-Volt Service—Made under the same general specifications as the 600-Volt wire and cable described above except the rubber wall thickness is greater (in accordance with Underwriters' standards) to withstand this voltage. Standard sizes: 4/0 to 14 A.W.G. gauge; larger sizes made to order. Cables for higher voltages up to 5,000 are made to order.

"U. S." Paracore Flexible and Extra Flexible Rubber-insulated and Braided Wire and Cable—For use on portable or semi-portable units where the cable is not subjected to rough usage. Consists of a soft drawn, tinned or cotton wound, stranded copper conductor (rope stranded in sizes 4/0 to 8 A.W.G. gauge, and either concentric or bunched in sizes 10, 12 and 14 A.W.G. gauge), insulated with rubber compound and covered with soft cotton braid, saturated and highly polished.



"U. S." Paracore Parallel Duplex Rubber-insulated and Braided Wire

The two conductors, either solid or stranded, are of soft drawn copper, with uniform coating of tin, over which is an insulation of N.E.C.S. compound, a braid of high-grade soft cotton yarn, thoroughly saturated with weather-proof wax, and a smooth, hard, highly polished finish. Sizes: 8, 10, 12 and 14 A.W.G.



"U. S." Paracore Lead Encased Cables

Consist of Paracore single conductor, twin duplex and 3 conductor rubber-insulated and braided cables, solid and stranded (described opposite), with a sheath of commercially pure lead of uniform thickness applied over all.

Sizes: *Solid* cables (single and twin duplex)—6, 8, 10, 12 and 14 A.W.G. gauge. *Stranded* cables—single conductor; No. 8 A.W.G. gauge to 1,500,000 cir-mils; twin duplex 2/0 to No. 8 A.W.G. gauge and 3-conductor: 2/0 to No. 8 A.W.G. gauge.



"U. S." Weatherproof Wire

Consists of a solid or stranded, soft drawn medium hard drawn or hard drawn copper conductor, covered with 2 or 3 high grade cotton braids saturated with black weatherproof compound and highly polished. Sizes: 1/0 to 18 A.W.G. gauge (solid): 1,000,000 circular mils to No. 8 A.W.G. gauge (stranded).

"U. S." Slow Burning Wire

Same construction and sizes as the Weatherproof Wire described above except that the braids are white, each being thoroughly saturated with white flameproof compound.



"U. S." Type "C" Lamp Cord

Braid on each conductor; conductors twisted together. See note below.



"U. S." Type "PD." Lamp Cord

Same as Type "C," except soft cotton braid on each conductor, conductors twisted, with a braid over all. See note below.



"U. S." Type "PO" Parallel Lamp Cord

Two braided conductors, laid parallel, braid over all. See note below.



"U. S." Type "P" Reinforced Portable Lamp Cord

Two braided conductors twisted, re-insulated with rubber compound, a dry braid over all. See note below.



"U. S." Type "PWP" Moistureproof Reinforced Portable Lamp Cord

Same as Type "P," except outside braid has a black weatherproof finish.

Note on "U. S." Lamp Cords

All lamp cords are composed of soft annealed copper wires, flexible, bunched stranding, cotton wound, insulated with N.E.C.S. compound and braided with high-grade glazed cotton or rayon yarns.

All cords are made in No. 10, 12, 14, 16 and 18 B. & S. Gauge except Type "PWP" which ranges in size from No. 4 to 18 B. & S. Gauge. All cords No. 18 Gauge and larger bear Underwriters' labels. Standard colors are as follows:

Glazed Cotton—White, gray, yellow, oak, olive, green, dark brown, red, maroon, blue, black, or any above combination.

Rayon—White, gray, old brass, old gold, olive, maroon, brown, black.

STANDARD PACKAGE LENGTHS OF LAMP CORDS

Type	Cotton braid	Rayon braid
"C"	250-ft. coil	250-ft. spool
"PD"	250-ft. coil	.....
"PO"—1/32-in. insulation	250-ft. spool	250-ft. spool
"PO"—1/64-in. insulation	500-ft. spool	250-ft. spool
"P"	250-ft. coil	.....
"PWP"	250-ft. coil	.....
Single Conductor—		
1/32-in. insulation	500-ft. spool	500-ft. spool
1/64-in. insulation	1000-ft. spool	1000-ft. spool



"U. S." Paracore Fixture Wire

Consists of a solid or stranded copper conductor, wrapped with cotton yarn, insulated N.E.C. rubber compound and covered with a high grade cotton braid. Sizes 14, 16 and 18 A.W.G. gauge, for 15, 6 and 3 amperes respectively.



"U. S." Heat-resisting Fixture Wire

For use between temperatures of 120° F. and 190° F. A flexible copper conductor is covered with a cotton wrap and cotton braid—each thoroughly saturated and filled with a non-conducting, heat-resisting and moistureproof compound.

Furnished plain or with a cotton or rayon braid in No. 14, 16 and 18 B. & S. Gauge. Standard package length: 500-ft. spools.



"U. S." Style No. 1 Heater Cord

Glazed cotton braid over each conductor; conductors twisted together. See note below.



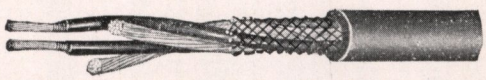
"U. S." Style No. 5 Heater Cord

Individual conductors (no cotton braid) twisted, glazed cotton braid overall. See note below.

Note on "U. S." Heater Cords

All styles have flexible stranded conductors, cotton wound, rubber-insulated, covered with an asbestos wind and braided overall in standard colors of cotton yarn.

All styles are made in No. 14, 16 and 18 B. & S. Gauge. Standard package length: No. 14, 250-ft. coil; No. 16 and 18, 500-ft. coils.



"U. S." Royal Portable Cord

Adaptable for any type of portable electrical equipment where utmost strength is required for unusually severe service—will outwear many times any fabric covered cord.

Extremely flexible; non-absorbent; unaffected by oil or water; abrasion resistive; immune to kinking.

Type S Heavy Duty Cord—Consists of 2, 3 or 4 stranded copper conductors, individually cotton wrapped and insulated with rubber compound. The conductors are then twisted together with a long staple cotton filler. An open braid is then applied, over which is placed a jacket of high grade wear-resisting rubber compound. Sizes: 10, 12, 14, 16 and 18 A.W.G. Gauge.

Type SJ—Consists of 2 or 3 stranded copper conductors individually cotton wrapped and insulated with rubber compound. The conductors are then twisted together with a long staple cotton filler. A close braid is then applied, over which is placed a jacket of high grade wear-resisting rubber compound. Sizes: 16 and 18 A.W.G. gauge.

Usco Splicing Compound (Rubber Tape)

An especially prepared rubber insulating tape, gray in color, unvulcanized, weatherproof, and free from sulphur.

Forms a homogeneous mass without application of heat, and makes splices dielectrically as strong as the insulation itself.

Suitable for inside or outside work.

Packed in standard cartons containing 10 or 20 ft. lengths, ¾ in. wide.

"U. S." Holdtite Friction Tape

A high grade black friction tape meeting with a large degree of safety all the A.S.T.M. requirements—will wear as long as the braid on the wire. Clean to handle; retains its adhesiveness; specially cut before being rolled, to prevent ravelling. Use this tape over Usco Splicing Compound to insure a finished job that will last indefinitely.

Packed in standard cartons containing 67 or 87½ ft. lengths, ¾ in. wide.

CENTRAL TUBE COMPANY

"Central White," "Central Black" and "Whitenred" Conduit, Elbows and Couplings

First National Bank Bldg., Pittsburgh, Pa.

ATLANTA.....701 Bona Allen Bldg.
BOSTON.....10 High Street
CHICAGO.....750 Marquette Bldg.
CLEVELAND.....342 Rockefeller Bldg.
DALLAS.....823 Claremont Street
DETROIT.....842 Maccabees Bldg.
KANSAS CITY.....505 Southwest Blvd.

LOS ANGELES.....400 California Reserve Bldg.
LOUISVILLE.....306 Columbia Bldg.
MINNEAPOLIS.....1124 Metropolitan Life Bldg.
NEW YORK.....71 West 23rd Street
PHILADELPHIA.....224 North Camac Street
SAN FRANCISCO.....252 Fifth Street

Jobbers and Dealers with Complete Stocks in Every Important City

"Central" Conduit—Superior in Every Detail

WIRING GUIDE

For Engineers and Estimators

CENTRAL CONDUIT SIZES

For combinations of different sizes of Code 600 Volt wires. Rubber Covered, Braided, and Lead Encased, Rubber Covered. National Electric Code Standard.

All sizes, weights, and dimensions shown below are nominal.

"CENTRAL WHITE"—"CENTRAL BLACK"—"CENTRAL WHITENRED"
Conduit, Elbows, and Couplings

CONDUIT

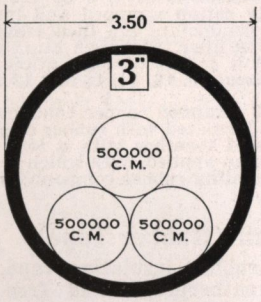
Size	Price, Foot	Diameters External	Diameters Internal	Int. Transverse Area Area Sq. In.	Int. Transverse Area 40% Area	Thickness	Weight per Foot	Threads per Inch
¼	.08½	.540	.364			.088	.425	18
⅜	.08½	.675	.493			.091	.568	18
½	.08½	.840	.622	.304	.122	.109	.852	14
¾	.11½	1.050	.824	.533	.213	.113	1.134	14
1	.17	1.315	1.049	.864	.346	.133	1.684	11½
1¼	.23	1.660	1.380	1.495	.598	.140	2.281	11½
1½	.27½	1.900	1.610	2.036	.814	.145	2.731	11½
2	.37	2.375	2.067	3.355	1.342	.154	3.678	11½
2½	.58½	2.875	2.469	4.788	1.915	.203	5.819	8
3	.76½	3.500	3.068	7.393	2.957	.216	7.616	8
3½	.92	4.000	3.548	9.886	3.954	.226	9.202	8
4	1.09	4.500	4.026	12.730	5.092	.237	10.889	8
5	1.48	5.563	5.047	20.006	8.002	.258	14.810	8
6	1.92	6.625	6.065	28.891	11.556	.280	19.185	8

COUPLINGS Size	Nominal O. D.	Price, Each	Weight per 100 Lbs.	ELBOWS Price, Each	Weight per 100 Lbs.	Radius, Inches	Offset, Inches
¼	.685	.05	6.0	.19	32	3.000	5.625
⅜	.848	.06	9.5	.19	43	3.000	5.625
½	1.024	.07	11.6	.19	83	4.000	7.000
¾	1.281	.10	20.9	.25	123	4.500	7.500
1	1.576	.13	34.3	.37	203	5.750	9.500
1¼	1.950	.17	53.5	.45	318	7.250	10.875
1½	2.218	.21	74.3	.60	432	8.250	12.625
2	2.760	.28	120.8	1.10	705	9.500	15.250
2½	3.276	.40	172.0	1.80	1261	10.500	17.375
3	3.948	.60	249.8	4.80	1840	13.000	19.500
3½	4.591	.80	424.1	10.60	2530	15.000	21.250
4	5.091	1.00	474.1	12.25	3176	16.000	22.500
5	6.296	1.65	700.0	25.75	6170	24.000	32.000
6	7.358	2.40	750.0	32.00	9590	30.000	39.750

FINISHED CONDUIT AS SHIPPED WITH COUPLING ATTACHED SHALL BE IN 10 FOOT LENGTHS. CONDUIT IS ALWAYS DESIGNATED BY ITS NOMINAL INSIDE DIAMETER.

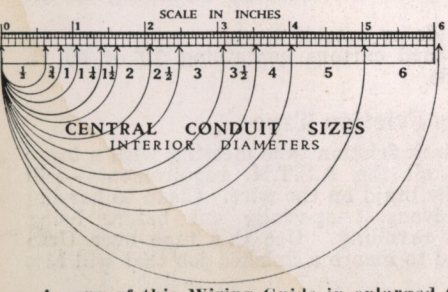
Conduit sizes should be figured to provide for the easy installation of conductors.

It is an accepted practice that the area of the conductors should not exceed 40% of the area of the conduit. Below is shown a practical example of the working out of this principle.



3" Conduit area 7.393 40% of area 2.957

Area of 3-500.000 C. M. R. C. Conductors 2.851



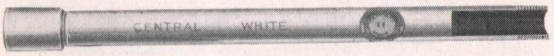
A copy of this Wiring Guide in enlarged form will be gladly sent on request.

CONDUCTOR DIMENSIONS

Size		Overall Diameter In.	Area Sq. In.
B. & S.—Solid S. B.			
18 R.C.	1/64"	.105	.0087
	2/64"	.135	.0143
16 R.C.	1/64"	.115	.0104
	2/64"	.145	.0165
14	R.C.	.20	.0314
	L.C.	.26	.0530
12	R.C.	.22	.0380
	L.C.	.27	.0572
10	R.C.	.24	.0452
	L.C.	.33	.0855
8	R.C.	.27	.0572
	L.C.	.35	.0962
Stranded D. B.			
6	R.C.	.41	.1320
	L.C.	.47	.1734
5	R.C.	.43	.1452
	L.C.	.49	.1885
4	R.C.	.46	.1661
	L.C.	.52	.2123
3	R.C.	.49	.1885
	L.C.	.55	.2375
2	R.C.	.53	.2206
	L.C.	.58	.2642
1	R.C.	.60	.2827
	L.C.	.65	.3318
1/0	R.C.	.64	.3217
	L.C.	.69	.3739
2/0	R.C.	.68	.3631
	L.C.	.74	.4301
3/0	R.C.	.73	.4185
	L.C.	.79	.4901
4/0	R.C.	.79	.4901
	L.C.	.85	.5674
Circular Mil Sizes			
250,000	R.C.	.87	.5944
	L.C.	.96	.7238
300,000	R.C.	.92	.6647
	L.C.	1.01	.8011
350,000	R.C.	.97	.7390
	L.C.	1.06	.8824
400,000	R.C.	1.02	.8171
	L.C.	1.11	.9677
450,000	R.C.	1.06	.8824
	L.C.	1.15	1.0387
500,000	R.C.	1.10	.9503
	L.C.	1.20	1.1309
600,000	R.C.	1.21	1.1499
	L.C.	1.34	1.4102
700,000	R.C.	1.28	1.2868
	L.C.	1.41	1.5611
750,000	R.C.	1.32	1.3685
	L.C.	1.44	1.6286
800,000	R.C.	1.35	1.4314
	L.C.	1.47	1.6972
900,000	R.C.	1.42	1.5836
	L.C.	1.54	1.8626
1,000,000	R.C.	1.51	1.7908
	L.C.	1.60	2.0106
1,250,000	R.C.	1.59	1.9855
	L.C.	1.79	2.5165
1,500,000	R.C.	1.76	2.4328
	L.C.	1.92	2.8953
2,000,000	R.C.	1.96	3.0172
	L.C.	2.14	3.5968

"Central" Conduit will last as long as the building in which it is installed, due to perfection in every detail of materials, fabrication, tests and inspections. The country's foremost engineers and architects recognize this by their readiness to specify it and accept it for use in many of the most prominent buildings erected in recent years.

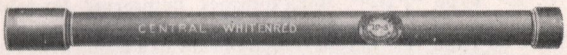
Preparation of Tubing Stock—Selected mild steel skelp is die-formed into tubing and self-welded into a continuous ductile pipe of easy working qualities. The tubing is cut into standard 10-ft. lengths and is cleanly, smoothly and uniformly threaded. Pipes are then immersed, first in a cleaning solution, next in an acid bath to remove all scale.



"Central White" Rigid Conduit—"Central White" is electro-galvanized. It receives a flash or cleansing coat of zinc, followed by water bath and a final exterior coating of zinc. A coat of black enamel is then applied and baked on the interior pipe surface only, giving a hard, smooth raceway ideal for fishing wires.



"Central Black" Rigid Conduit—"Central Black" has a single black enamel coating baked on the inside and outside. Prior to dipping, a coupling is threaded on one end and fibre thread protector on the other end, preventing the enamel from gumming the threads.



"Whitenred"—A new "Central" Conduit for very severe service. Designed primarily to fill the requirements of engineers who demand a zinc coated conduit steel further protected by an acid proof super coating. Due to certain ingredients "Whitenred" is also conductive so that a definite ground can be obtained without removal of the coating.

Tests and Inspection—At every operation, "Central" Conduit must stand severe tests or be returned for reprocessing. Thus no latent defects are allowed to become hidden and appear in the finished product. A hydrostatic pressure of 800 lb. per sq. in. is applied to each separate section. The final inspection and test of every length of conduit is made by an inspector from the Underwriters' Laboratories, and every approved length bears their label.

Broad Distribution—"Central" jobbers in every important city carry a complete stock of conduit, elbows and couplings. They have a reputation for immediate deliveries and wholehearted cooperation.

FRETZ-MOON TUBE CO., INC.

Manufacturers of

Galvite and Enamelite Conduit, Elbows and Couplings

BUTLER, PA.

Agent Representatives

L. P. Moon.....1420 Chestnut St., Philadelphia, Pa.
Fletcher-Weil Co.....1923 E. Seventh St., Los Angeles, Cal.
J. W. Maguire Co.....910 S. Michigan Blvd., Chicago, Ill.
W. F. Harper.....3733 Lindell Blvd., St. Louis, Mo.
Eichel & Co.....1107 E. Main St., Richmond, Va.
Warner-Jones Co.....507 Caxton Bldg., Cleveland, Ohio
Langguth-Olson Co.....150 Nassau St., New York, N. Y.
Barrett Steel Sales Co....508 Illinois Bldg., Indianapolis, Ind.
A. F. Scherer.....1002 American Bldg., Cincinnati, Ohio
Mfg. Distributing Co.....40 Worth St., New York, N. Y.
Wm. P. Johnson Elec. Co...43 S. Third St., Minneapolis, Minn.
L. S. Shiro.....67 Brookledge St., Roxbury, Mass.
Wm. H. Miller.....1959 North Ave., Bridgeport, Conn.
R. H. Geiser Co.....1114-24 So. Grand Blvd., St. Louis, Mo.

Fretz-Moon Galvite and Enamelite Conduit

Fretz-Moon Conduit is known to the electrical trade the country over for its quality and uniformity. Only selected mild steel skelp is used in its manufacture, and the patented welding process employed produces a conduit which will not open at the seam when subjected to even severe abuse.

Fretz-Moon Conduit is extremely ductile, therefore easy to bend. It cuts easily and threads cleanly and smoothly.

"Galvite"—Electro-galvanized by the latest approved method. The outside surface and all over the threads is heavily covered with a protection of pure zinc. The inside is coated with black enamel, baked on, giving a hard smooth raceway which materially expedites the fishing of wires.

"Enamelite"—Has a black enamel coating baked to a glass-like finish on both inside and outside surfaces. The enamel, however, despite its smooth surface, is such that working the conduit does not cause it to flake and chip away from the metal.

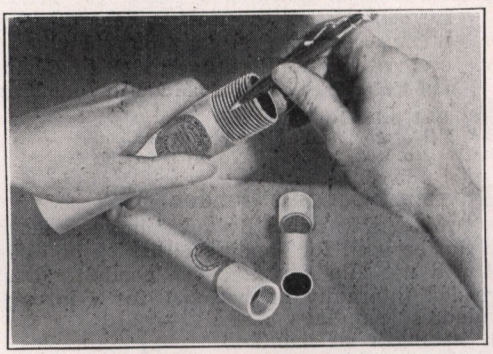


"Couplings"—Are of the same finish as the conduit, so cleanly threaded that they can be turned up to the last thread easily by hand, saving time on the job.

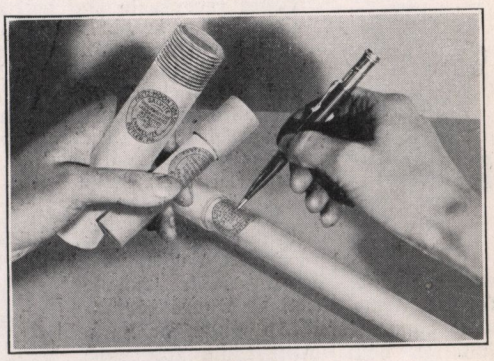
Fretz-Moon Conduit, ½ in. to 1½ in. is supplied in bundles, each piece exactly 10 feet long. One end of each length is fitted with coupling, the other end with thread protector.

Fretz-Moon Conduit is made under strict supervision, and every length must pass not only the inspection and testing to which it is subjected during manufacture, but also the inspection of the Underwriters' Laboratories before it can be marked with the Underwriters' seal of approval.

Complete stocks of conduit, elbows and couplings carried in all large jobbing centers, making for prompt delivery.



Clean Cut Threads on Conduit and Couplings Save Time and Trouble



Look for the Orange and Black Label It Is Your Protection

PRICE LIST

Conduit							Couplings		Elbows			
Size, in.	Price per foot	Weight per foot, lb.	Diameters, in. External	Diameters, in. Internal	Thickness, in.	Threads per inch	Price Each	Wt., lbs. per 100	Price Each	Wt., lbs. per 100	Radius, Inches	Offset, Inches
¼	$ .08½	.425	.540	.364	.088	18	$ .05	6.0	$ .19	42	3.000	5.625
⅜	.08½	.568	.675	.493	.091	18	.06	9.5	.19	53	3.000	5.625
½	.08½	.852	.840	.622	.109	14	.07	11.6	.19	75	4.000	7.000
¾	.11½	1.134	1.050	.824	.113	14	.10	20.9	.25	120	4.500	7.500
1	.17	1.684	1.315	1.049	.133	11½	.13	34.3	.37	200	5.750	9.500
1¼	.23	2.281	1.660	1.380	.140	11½	.17	53.5	.45	300	7.250	10.875
1½	.27½	2.731	1.900	1.610	.145	11½	.21	74.3	.60	427	8.250	12.625
2	.37	3.678	2.375	2.067	.154	11½	.28	120.8	1.10	700	9.500	15.250
2½	.58½	5.819	2.875	2.469	.203	8	.40	172.0	1.80	1300	10.500	17.375
3	.76½	7.616	3.500	3.068	.216	8	.60	249.8	4.80	1700	13.000	19.500
3½	.92	9.202	4.000	3.548	.226	8	.80	424.1	10.60	2300	15.000	21.250
4	1.09	10.889	4.500	4.026	.237	8	1.00	474.1	12.25	2700	16.000	22.500
4½	1.27	12.642	5.000	4.506	.247	8	1.50	550.0	18.55	3100	18.000	24.375
5	1.48	14.810	5.563	5.047	.258	8	1.65	700.0	25.75	5500	24.000	32.000
6	1.92	19.185	6.625	6.065	.280	8	2.40	750.0	32.00	9000	30.000	39.750

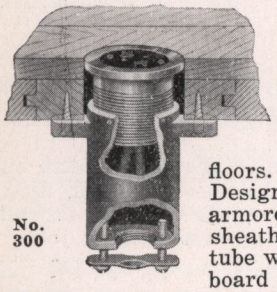
Conduit is furnished in 10-ft. lengths, threaded both ends, with coupling screwed on one end.
Conduit is always designated by its nominal inside diameter.
All weights and dimensions shown above are nominal.

FULLMAN MANUFACTURING CO.

1209-1215 Jefferson Street, LATROBE, PA.

See List of Distributors and Representatives on Opposite Page

"Latrobe" Floor Boxes



No. 300

No. 300 "Latrobe" Midget Floor Receptacle — A non-watertight floor receptacle and box approved by the Underwriters' Laboratories for installation in wood floors. Outlet, only 2-in. diam. Designed for open wiring with armored cable, non-metallic sheathed cable or knob and tube work. Cheaper than baseboard outlets, especially in old buildings. Adjustable to suit all thicknesses of floor.

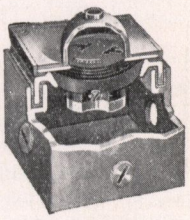
List price, each $2.00



No. 208 T-slot Receptacle

No. 251 "Latrobe" Adjustable Watertight Floor Box—Square; otherwise similar to No. 120 and No. 130 round boxes. The 3½-in. square cover plates are interchangeable and harmonize with covers of gang boxes. Several conduit holes permissible in each side.

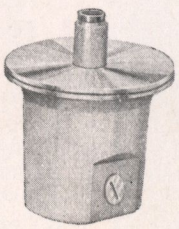
List price, each
With ½-in. plug in cover..$5.00
With No. 208 receptacle and 2-in. plug cover.... 5.80



No. 251

No. 100 "Latrobe" Non-adjustable Watertight Floor Box—Without Receptacle — Furnished with brass stem nozzle, but without receptacle, for telephone outlet, or where permanent connections are made, or as a junction box. Cover plate, 3½-in. diam.

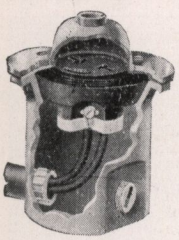
List price, each
Complete $3.15
Without No. 206 Nozzle 2.15



No. 100

No. 110 "Latrobe" Non-adjustable Watertight Floor Box—With Receptacle—Furnished complete with No. 208 T-slot receptacle and bell nozzle; fewest number of parts and least amount of labor to install. All fussy small screws, receptacle straps, filler plates and complicated assembly eliminated; the wireman simply attaches wires to receptacle and fastens in the box. Cover plate, 3½-in. diam.

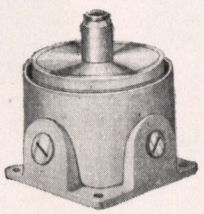
List price, each, complete.....$4.00



No. 110

No. 120 "Latrobe" Adjustable Watertight Floor Box—Without Receptacle—Furnished without receptacle and with or without brass stem nozzle for telephone outlet or where permanent connections are made, or as a junction box. Adjustable top with brass edge ring insures the 3½-in. diam. cover plate being absolutely flush with finished floor in fireproof construction.

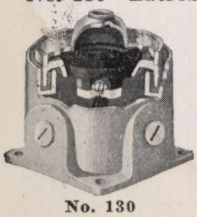
List price, each
Without No. 206 Nozzle $3.75
No. 206 Nozzle only 1.00



No. 120

No. 130 "Latrobe" Adjustable Watertight Floor Box—With Receptacle—Furnished with No. 208 T-Slot receptacle installed at factory. The adjustable top with brass edge ring insures the 3½-in. diam. cover plate being absolutely flush with finished floors in fireproof construction.

List price, each
Without No. 207 Bell Nozzle.....$4.60
No. 207 Bell Nozzle only 1.00



No. 130

Nos. 252, 253 and 254 "Latrobe" Gang Adjustable Watertight Floor Boxes—Same as No. 251 box, but furnished in 2, 3, or 4-gang boxes respectively, with partitions between sections to separate low and high-tension wires. Cover plates, 3½-in. square and interchangeable.

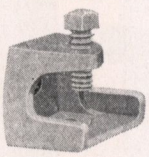
List price, per section
With ½-in. plug in cover.....$5.00
With No. 208 receptacle and 2-in. plug in cover..... 5.80



No. 252

"Bull Dog" Insulator Supports

Malleable iron clamps, galvanized finish, for attaching insulators to steel framework and other structures. Rigid 3-point support is secured by the slightly slanted case-hardened steel set screws. Made in four sizes.

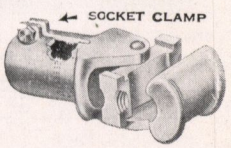


List prices, per 100
No. 400, $20.00 No. 401, $30.00
No. 402, $45.00 No. 403, $75.00

No. 625 "Latrobe" Conduit Bender

Combines two tools in one. By reversing the moveable jaw, it can be used for bending either ½ or ¾-in. conduit. It will not slip nor kink the conduit. Deep socket (threaded internally at bottom) for 1-in. pipe handle, eliminates couplings and insures full strength of handle. The socket clamp—a new feature—insures tight fit on undersize pipe handle and prevents handle from unscrewing. Made of malleable iron, galvanized finish.

List price, each.....$3.00



"Keystone" Fish Wire

Finest grade flat steel wire, properly tempered to give desired stiffness and springiness. Put up in 100, 150 and 200-ft. coils in strong cartons.



List Prices per 100 Feet

No. 500 (⅛" x .030")	$1.50
No. 501 (3/16" x .030")	2.00
No. 502 (¼" x .030")	2.50
No. 600 (⅛" x .060")	2.00
No. 601 (3/16" x .060")	3.00
No. 602 (¼" x .060")	4.00
No. 604 (⅜" x .060")	6.00

See List of Distributors and Representatives on Opposite Page

LIST OF DISTRIBUTORS OF

FULLMAN MANUFACTURING CO.

Latrobe, Pennsylvania

● *District Sales Agents* ■ *Agents Have Warehouse Stocks*

Birmingham, **ALA.**
Alabama Elec. Sup. Co.
●W. H. Beaven
Mobile, **ALA.**
Matthews Elec. Sup. Co.
Phoenix, **ARIZ.**
General Elec. Sup. Corp.
Westing. Elec. Sup. Co.
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Westing. Elec. Sup. Co.
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■● Allied Indust., Inc.
General Elec. Sup. Corp.
Graham-Reynolds El Co.
Graybar Elec. Co.
Reiman Wh'sale El. Co.
Westing. Elec. Sup. Co.
Oakland, **CALIF.**
■● Allied Indust., Inc.
General Elec. Sup. Corp.
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Sacramento, **CALIF.**
C. H. Carter Co.
San Diego, **CALIF.**
Elec. Sup. Dist. Co.
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San Francisco, **CALIF.**
■● Allied Indus., Inc.
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Service Elec. Sup. Co.
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Mine & Smelter Sup. Co.
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Olschan Elec. Sup. Co.
So. New Eng. Elec. Co.
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Capitol Light & Sup. Co.
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C. S. Mersick & Co.
Service Elec. Sup. Co.
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Graybar Elec. Co.
Hessel & Hoppen Co.
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Westing. Elec. Sup. Co.
Jacksonville, **FLA.**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Miami, **FLA.**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Tampa, **FLA.**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Atlanta, **GA.**
Gilham Electric Co.
Graybar Elec. Co.
Savannah, **GA.**
Graybar Elec. Co.
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Amer. Elec'l Sup. Co.
Ashland Electric Co.
Bright Light Co.
Co-Operat'e El. Sup. Co.
Deal. & Job. El. Sup. Co.
Efengee Elec. Sup. Co.
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U. S. Electric Co.
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Lighting Fix. Sup. Co.
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Milhender El. Sup. Co.
Rossman Elec. Sup. Co.
Westing. Elec. Sup. Co.
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Corey Elec. Sup. Co.
Pittsfield, **MASS.**
Mountain Elec. Sup. Co.
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Detroit, **MICH.**
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Cadillac Elec. Sup. Co.
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General Elec. Sup. Corp.
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● J. J. Miner Co.
Westing. Elec. Sup. Co.
Flint, **MICH.**
Graybar Elec. Co.
Grand Rapids, **MICH.**
Graybar Elec. Co.
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L. R. Klose Elec. Co.
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Capitol Elec. Sup. Co.
Pontiac, **MICH.**
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Saginaw, **MICH.**
Morley Bros. El. Dept.
Duluth, **MINN.**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Minneapolis, **MINN.**
■● Elec'l Job. Equip. Co.
General Elec. Sup. Corp.
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Sterling Electric Co.
Westing. Elec. Sup. Co.
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Graybar Elec. Co.
Westing. Elec. Sup. Co.
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Cabel Electric Co.
Joplin, **MO.**
Glasco Electric Co.
Kansas City, **MO.**
Glasco Electric Co.
Graybar Elec. Co.
Mo. Valley Elec. Co.
St. Louis, **MO.**
Brown & Hall Sup. Co.
■● Leigh A. Doxsee Co.
Glasco Electric Co.
Graybar Elec. Co.
Manhat. Elec'l Sup. Co.
Westing. Elec. Sup. Co.
Springfield, **MO.**
Ford Brass Co.
Butte, **MONT.**
General Elec. Sup. Corp.
Westing. Elec. Sup. Co.
Lincoln, **NEB.**
Enterprise Elec. Co.
Korsmeyer Co.
Omaha, **NEB.**
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Westing. Elec. Sup. Co.
Asbury Park, **N. J.**
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Franklin Elec. Co.
Jersey City, **N. J.**
General Elec. Sup. Corp.
Long Branch, **N. J.**
Rutkin Elec. Sup. Co.
Newark, **N. J.**
General Elec. Sup. Corp.
Graybar Elec. Co.
N. J. Elec. Sup. Co.
Westing. Elec. Sup. Co.
New Brunswick, **N. J.**
New Bruns. El. Sup. Co.
Paterson, **N. J.**
Geo. S. Campbell & Co.
Silk City Elec'l Sup. Co.
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Graybar Elec. Co.
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Westing. Elec. Sup. Co.
Astoria, L. I., **N. Y.**
Steinway Elec. Sup. Co.
Binghamton, **N. Y.**
Bunnell-Stevens Co.
So. N. Y. El. Sup. Co.
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Noyes Elec'l Sup. Co.
Parr Electric Co.
A. Shemel & Co.
Westing. Elec. Sup. Co.
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General Elec. Sup. Corp.
Graybar Elec. Co.
Rochester Elec. Sup. Co.
Syracuse, **N. Y.**
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Syracuse Supply Co.
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Graybar Elec. Co.
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Graybar Elec. Co.
Greensboro, **N. C.**
Carolina St's Elec. Co.
Raleigh, **N. C.**
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Fargo, **N. D.**
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Moock Elec. Sup. Co.
Sacks Elec'l Sup. Co.
Canton, **OHIO**
Moock Elec. Sup. Co.
Cincinnati, **OHIO**
General Elec. Sup. Corp.
Graybar Elec. Co.
Johnson Elec. Sup. Co.
Cleveland, **OHIO**
Allen Electric Co.
W. Bingham Co.
Graybar Elec. Co.
Milner Electric Co.
Westing. Elec. Sup. Co.
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Graybar Elec. Co.
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Erie, **PA.**
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Graybar Elec. Co.
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Westing. Elec. Sup. Co.
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Graybar Elec. Co.
Union Elec. Sup. Co.
Westing. Elec. Sup. Co.
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Westing. Elec. Sup. Co.
Nashville, **TENN.**
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Tafel Elec. Co.
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General Elec. Sup. Corp.
Beaumont, **TEXAS**
Graybar Elec. Co.
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Beckett Elec. Co.
General Elec. Sup. Corp.
Graybar Elec. Co.
Westing. Elec. Sup. Co.
El Paso, **TEXAS**
Mine & Smelter Sup. Co.
Fort Worth, **TEXAS**
Graybar Elec. Co.
Miller Elec. Co.
Houston, **TEXAS**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
San Antonio, **TEXAS**
Graybar Elec. Co.
Waco, **TEXAS**
Waco Elec'l Sup. Co.
Salt Lake City, **UTAH**
Graybar Elec. Co.
Mine & Smelter Sup. Co.
Norfolk, **VA.**
Graybar Elec. Co.
Richmond, **VA.**
Graybar Elec. Co.
Roanoke, **VA.**
Graybar Elec. Co.
Seattle, **WASH.**
■● Allied Indus., Inc.
Fobes Supply Co.
General Elec. Sup. Corp.
Globe Electric Co.
Graybar Elec. Co.
Spokane, **WASH.**
General Elec. Sup. Corp.
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Tacoma, **WASH.**
Graybar Elec. Co.
Home Elec. Co.
Love Electric Co.
Bluefield, **W. VA.**
Bluefield Supply Co.
Charleston Elec. Sup. Co.
Charleston, **W. VA.**
Charleston Elec. Sup. Co.
Huntington, **W. VA.**
Banks-Miller Sup. Co.
Wheeling, **W. VA.**
The Front Co.
Sands Electric Co.
La Crosse, **WIS.**
W. A. Roosevelt Co.
Madison, **WIS.**
Crescent Elec. Sup. Co.
Westing. Elec. Sup. Co.
Milwaukee, **WIS.**
Graybar Elec. Co.
Westing. Elec. Sup. Co.
Superior, **WIS.**
Benson Electric Co.

Taplet Manufacturing Company

Manufacturers of Taplet Conduit Fittings

Philadelphia, Pa.

Emergency Shipping Stocks

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SEATTLE, WASH.....406 Occidental Ave.

Taplets—The Improved Conduit Fittings for Easy Wiring and Simplified Construction

Standard Oblong Series in All Shapes or Types and in Sizes from ½ to 4-in. Conduit—Openings of every two sizes are exactly alike, making only five sizes of covers necessary. One cover for each two sizes and one size device for standard work afford everyone a saving in stock investment, increased turnover of few items and a two-to-one assurance of having proper covers for all fittings at all times. Wire openings are wide, roomy and free from projecting cover lugs. Easy to get hold of main lines, pull up slack, make splices and fold them back. All sizes up to 1½-in. have case-hardened cupped set-screws in the hubs, making it easy to properly align Taplets on conduit runs on which several fittings are required. Considerable labor is saved in aligning Taplets to the right position, for when the set-screw is fastened it bites into the pipe and holds it permanently in position.

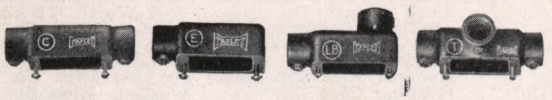
FS and FD Series for use with Flush Type Wiring Devices—Made in various shapes and in 1 to 4-gang styles. Accommodate not only all the standard types of wiring devices, but also all the various standard cover plates for these devices, thus eliminating all duplication of cover stocks. Set-screws in hub make alignment easy where several fittings are used on the same conduit run or set in continuous gang, hub to hub.

GH and WD Series—Originally designed for use with round base 5, 10 and 20-ampere wiring devices. Now also extensively used as splicing boxes, and in assembly as part of flexible or cushion type fixture hangers, vaporproof hoods for snap switches and Type VF Taplet Assemblies for all types of vaporproof lamp fittings.

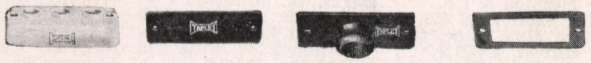
Vaporproof Construction—All Taplets fittings except flexible fixture hangers may be made vaporproof with gaskets. Gaskets of any material can be furnished. Snap type switches are vaporproofed by using Type QK switch hoods mounted on GH series Taplets and flush type by using either FS or FD series Taplets and the proper vaporproof operating cover.

Vaporproof Lamp Fittings—Taplet standard vaporproof lamp fittings differ from ordinary fittings in that they are assembled with standard parts to meet every conceivable requirement. Any change in construction may be met by the simple change of one taplet part rather than the replacement of the entire fitting.

Pull and Junction Boxes—Types to meet the growing demand for large boxes for use as pull, junction and splice fittings.

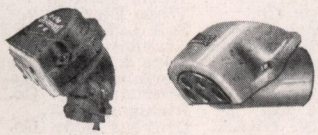


Standard Oblong Fittings—All Necessary Shapes



Porcelain, Blank Metal and Nipple Covers

Gaskets



Service Entrance Fittings
Four Types ½ to 4" Sizes



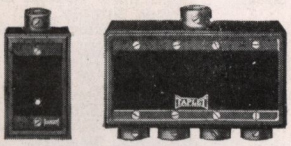
Service Elbow Fittings
For Various Conditions



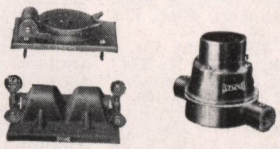
Terminal Outlet or Entrance Fittings



Rigid, Flexible and Cushion Fixture Hangers

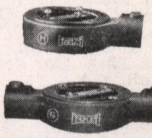


Flush Device Fittings
One to Four Gang

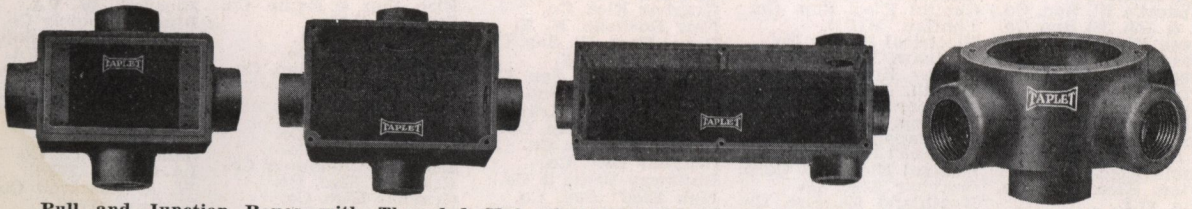


Weatherproof and Vaporproof Receptacle, Switch and Lamp Assemblies





Round Opening Types
Many Shapes and Sizes



Pull and Junction Boxes with Threaded Hubs for Heavy Power Wiring—Various Shapes, Sizes and Types

A Complete Line of Taplet Conduit Fittings for All Standard Installations

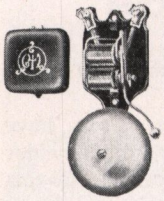
Taplets are made in all standard shapes and sizes from ½ to 4 in. to meet every conduit need, those illustrated above being only a few of the many types in our complete line.

Our latest catalog, which lists the complete Taplet line, will be sent upon request to those interested.

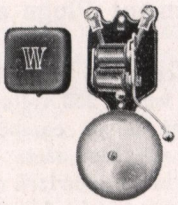
THE ANSONIA ELECTRICAL CO.

ANSONIA CONN.

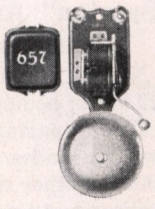
Small Bells and Buzzers



No. 641



No. 659

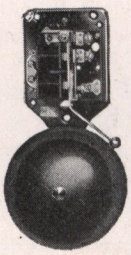


No. 657

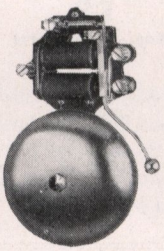
Made with 2½, 3 and 4-in. gongs and buzzers, for battery or transformer use, in the following classes.

Acme No. 631, Class A.
Wizard No. 659, Class C.
Eureka No. 641, Class B.
No. 657, Competitive Bell.

Large Bells



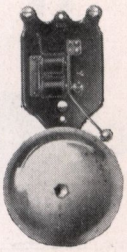
Nos. 642-643



No. 620



Nos. 622-624



No. 649

No. 620 Skeleton Battery Type Bell—2½, 3, 4, 5, 6, 7, 8 and 10-in. gongs.

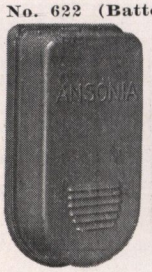
No. 641-L Battery Type Bell—4, 5, 6 and 8-in. gongs.

No. 649 Universal (Battery or Transformer) Type Bell—6-in. gong.

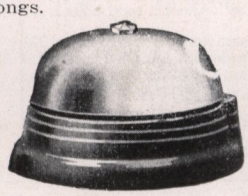
The following bells are approved by the National Board of Fire Underwriters—

No. 642 Bell (for voltages up to 220 A.C.) and No. 643 (for voltages up to 220 D.C.)—4, 5, 6 and 8-in. gongs.

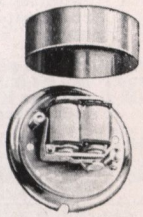
No. 622 (Battery Type) and No. 624 (Transformer Type) Weatherproof Bells for Voltages up to 220 A.C. or D.C.—5, 6, 8, 10 and 12-in. gongs.



No. 664 Enclosed Combination Bell and Buzzer
2½-in. gong

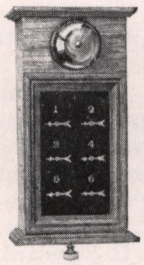


No. 661 Monitor Bell
3-in. gong
Suitable for car and bus work

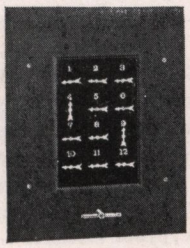


No. 666 Watch Case Buzzer
2¼-in. diameter

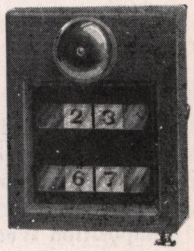
Annunciators



No. 300



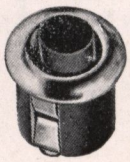
No. 309



No. 320

Hand or electric reset types for house or elevator use, for operation with battery or transformer, with needle or card indicators, and wood or metal cases, for flush or surface mounting. Any finish or number of drops required.

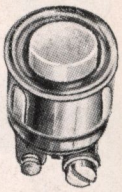
Push Buttons



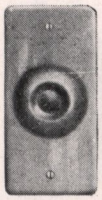
No. D-33

No. 562 ¾-in. Diameter Desk Push Button—Pearl center; brass or bronze shell.

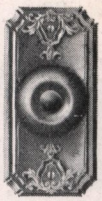
No. D-33 ⅝-in. Diameter Desk Push Button—Composition center; brass or bronze shell; molded composition base.



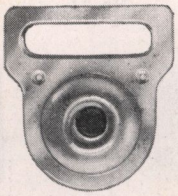
No. 562



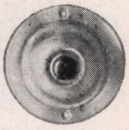
No. 529



No. 532



No. 507



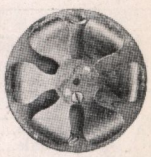
Nos. 506-527

Stamped Brass or Bronze Push Buttons—Various styles of round push buttons from 1½ to 2¼-in. diameter, with loose or fixed backs; rectangular push buttons from 1¾ x 4 in. to 2¾ x 4½ in. with loose or fixed backs.

Cast Brass or Bronze Round Push Buttons—From 1 7/16 to 2¾-in. diameter, with loose backs and screw caps.

Flush Stamped Brass or Bronze Push Buttons—Round, square and rectangular styles, single and compound, with D-33 or 162 centers, in all standard sizes.

No. 800 Daisy Floor Tread—Polished brass; 3¾-in. diameter.



No. 800

Wires and Cables

Round Magnet Wire—Single and Double cotton covered—4/0 to 40 B. & S. gauge; single and double silk covered—16 to 40 B. & S. gauge; plain enameled—10 to 40 B. & S. gauge; enameled, single and double cotton covered—10 to 40 B. & S. gauge; enameled, single and double silk covered—16 to 40 B. & S. gauge.

Square and Rectangular Magnet Wire—Double Cotton covered in specified sizes.

Weatherproof Wire—Solid single conductor with double or triple braid, in sizes from 4/0 to 18 B. & S. gauge.

Stranded single conductor with double or triple braid in sizes from 8 B. & S. gauge to 1,000,000 circular mils.

Slow-burning Wire—Solid single conductor with triple braid in sizes from 1 to 18 B. & S. gauge.

Stranded single conductor with triple braid, in sizes from 8 B. & S. gauge to 1,000,000 circular mils.

Annunciator Wire—Solid single and multiple conductor in sizes from 14 to 22 B. & S. gauge.

Office and Dampproof Office Wire—Solid single and multiple conductor in sizes 14, 16 and 18 B. & S. gauge.

Flexible Elevator Annunciator Cable—Stranded conductor (3 to 25 conductors); 18 B. & S. gauge.

Antenna Wire—Solid and stranded; plain, tinned or enameled; sizes, 12, 14 and 16 B. & S. gauge.

THE BRYANT ELECTRIC COMPANY

Factory and Main Office:
1421 State Street, Bridgeport, Conn.

CHICAGO — 844 West Adams Street — *Office and Warehouse*
NEW YORK — Lincoln Building — *District Office*
PHILADELPHIA — 1317 Widener Bldg. — *District Office*
SAN FRANCISCO — 149 New Montgomery Street — *Office and Warehouse*

Distributors and Dealers Everywhere

Porcelain and Composition Sockets

Porcelain Sockets—N. E. C. Standard. Any cap fits any body.

Interchangeable Cold Moulded Black Composition Sockets—N. E. C. Standard; extremely rugged. A large lug in the cap fits into a deep slot in the body, making the parts line up at once; screws can be inserted without groping or fumbling. Caps and bodies are interchangeable. Bodies grooved for "Weatherproof" shareholder.

Composition Weatherproof Sockets—N. E. C. Standard. Fitted with 6-in. leads of No. 14 B. & S. stranded rubber-covered wire. Grooved for "Weatherproof" Shadeholder.



PA



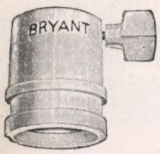
PT



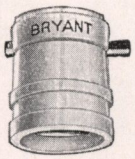
No. 73



No. 75



No. 70



No. 71


FQ



RM


No. 3770



No. 60667

Cat. No.	Description	Std. pkg. Quan.	Wt., lb.	Carton quan.	*List price, each
	Porcelain Bodies				
70	Single-pole key; 250 watts; 250 volts	100	35	10	$0.52
73	Keyless; 660 watts, 250 volts	100	30	10	.46
75	Single-pole pull; 250 watts; 250 volts	100	41	10	1.18
	Porcelain Caps and Bases				
PA	⅛-in. female	100	17	10	.40
PC	⅜-in. female	100	17	10	.48
PT	Pendent, 13/32-in., cord hole	100	11	10	.20
RM	Base for 3¼x4 in. boxes	50	45	5	.80
	Interchangeable Cold Moulded Black Composition Bodies				
3770	Key body; 250 watts; 250 volts	100	30	10	.52
3773	Keyless body, 660 watts; 250 volts	100	18	10	.46
FA	Cap with ⅛-in. metal bushing	100	13	10	.40
FC	Cap with ⅜-in. metal bushing	100	13	10	.48
FD	Cap with ½-in. metal bushing	100	14	10	.54
FQ	Pendent cap with cord grip, ¼ to ½-in.	100	16	10	.40
FT	Pendent cap	100	11	10	.20
FP	⅜-in. angle cap	100	24	10	1.00
	Composition Weatherproof Sockets				
43310	Pony size; brown	100	28	10	.36
43315	Pony size; high-heat	100	28	10	.36
43316	"Templus" high-heat "Brylock"	100	30	10	1.30
60667	High-heat	100	30	10	.40

*Schedule B discounts.

"Spartan" Attachment Plugs and Cord Connectors

N.E.C. Standard: caps, 15 amp. 125 volts, 10 amp., 250 volts; bodies, 660 watts, 250 volts.

The "Spartan" line is of composition. Caps have parallel blades. One of these slots can be made wider than the other to provide a polarized connection. For this purpose any Spartan cap can be furnished with one blade wider than the other at no increase in cost.



No. KA



No. KT



Nos. JK and JM



UV



No. 100



No. 103



No. 600



No. 706

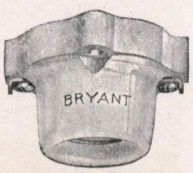
Cat. No.	Description	Std. pkg. Quan.	Wt., lb.	Carton quan.	*List price, each
	Attachment Plug Bodies				
100	Edison screw (no tandem slots)	250	23	10	$0.20
600	"Spartanette" Edison screw (no tandem slots): used with KT, KX and KY caps	500	41	25	.14
706	Edison "Templus" screw; used with KV caps	500	14	50	.16
103	Cord connector; diam., 1⅜-in.; length, 1 9/32-in.; 7/16-in. cord hole	50	9	10	.60
	†Attachment Plug Caps				
KA	Standard; 13/32-in. cord hole	250	27	10	.20
KT	"Spartanette"; 9/32x⅜-in. cord hole	500	37	25	.16
KX	"Spartanette"; ¼x3/16-in. cord hole	500	37	25	.16
KY	"Spartanette"; 9/32-in. cord hole	500	37	50	.16
UV	Standard "Templus"; 13/32-in. cord hole	100	12	10	.16
JK and JM	Cadmium-plated armored cord grip caps; JK cap 7/16-in. cord hole; JM has cord hole with shoulder ¾-in. diam. at outer end and ½-in. at inner end	50	8	10	.40
JJ	Same as JK, but without cord grip	250	18	10	.20
JZ	"Spartanette" Steel-armored cadmium-plated; 9/32-in. cord hole	250	37	10	.26

*Schedule R discounts.
†Prefix the letter "M" to Cat. No. if polarity cap is desired.

Porcelain Cleat Receptacles

N. E. C. Standard: 660 watts, 250 volts.

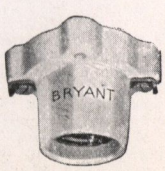
See table on next page.



No. 9402



Nos. 9171 and 50757



No. 50715

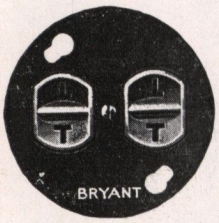
PORCELAIN CLEAT RECEPTACLES

Cat. No.	Description	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
9402	Receptacle $2\frac{1}{32}$-in. diam.; diam. over lugs, $2\frac{7}{8}$-in.; height, $1\frac{21}{32}$-in.; screw spacing, $2\frac{5}{16}$-in.	100	45	10	$0.34
50715	Receptacle Pony Type $1\frac{7}{8}$-in. diam.; diam. over lugs, $2\frac{7}{16}$-in.; height, $1\frac{23}{32}$-in.; screw spacing, $1\frac{31}{32}$-in.	100	33	10	.24
9171	Receptacle $1\frac{15}{16}$-in. diam.; height, $1\frac{1}{2}$-in.; one supporting screw in center	100	25	10	.24

*Schedule B discounts.

"Spartan" Receptacles with Round Covers for Direct Mounting on Outlet Boxes

N. E. C. Standard; 15 amp., 125 v., 10 amp., 250 volts each outlet. Side-wired; brown composition. Steel covers in black japan or cadmium plated finish.



No. 3761

Cat. No. Black Japan	Cat. No. Cadmium Plated	Type	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
†3760	3780	Single	100	40	10	$0.70
†3761	3781	Duplex	50	28	5	1.10
§4760	4780	Single	50	25	5	.80
§4762	4782	Duplex	50	27	5	1.20

*Schedule R discounts.
†For $3\frac{1}{4}$-in. box. § for 4-in. box.

"Spartan" Flush Receptacles

N. E. C. Standard; 15 amp. 125 volts, 10 amp., 250 volts each outlet. Single and duplex side-wired, bakelite, for plates without doors.


No. 792

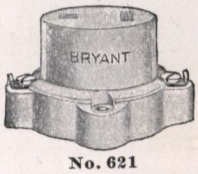
Cat. No.	Description	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
790 (Brown)	Single receptacle; base, $1\frac{3}{8}$-in. diam., depth, $\frac{33}{64}$-in.; screw spacing, $3\frac{9}{32}$-in.	100	17	10	$0.60
792 (Brown)	Duplex receptacle; base, $2\frac{31}{32}$ x $1\frac{1}{2}$ in.; depth, $\frac{33}{64}$ in., screw spacing $3\frac{9}{32}$ in.	100	23	10	.96

*Schedule R discounts.

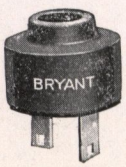
Polarized Receptacles, Caps and Plugs

N. E. C. Standard. See table, next column.

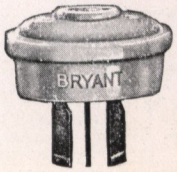

No. 9116



No. 621



No. 652



No. 689

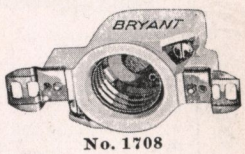
POLARIZED RECEPTACLES, CAPS AND PLUGS

Cat. No.	Description	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	List price, each
3-wire Receptacles and Caps—15 Amp., 125 Volts; 10 amp., 250 volts					
*9116	Comp. flush receptacle	50	20	10	$1.70
*9117	Porcelain flush conduit box receptacle with comp. top, one binding screw per terminal	50	10	10	.80
*9119	Porcelain surface concealed base receptacle	50	20	10	1.00
*9120	3-wire flush receptacle with identified grounding terminal connected to yoke	50	20	10	1.70
3-wire Heavy-duty Receptacle and Caps					
†747	Porcelain surface receptacle; 60 amp., 125 volts; 40 amp., 250 volts, with solder lugs	10	12	5	1.40
†787	Comp. surface receptacle; 60 amp., 125 volts; 40 amp., 250 volts; with solder lugs	10	11	5	2.20
†748	Porcelain sub-base for use with No. 747	10	7	5	.20
†689	Porcelain cap; ½-in. cord hole; 30 amp., 250 volts; binding screw terminals	10	10	5	.80
†690	Porcelain cap; ¾-in. cord hole; 30 amp., 250 volts; binding screw terminals	10	10	5	.80
†786	Comp. cap with grounding prongs and cord grip; ¾-in. cord hole; 30 amp., 250 volts	10	14	10	2.00
†775	Comp. cap with grounding prongs and straight clamp for BX cable; 60 amp., 125 volts; 40 amp., 250 volts, with solder lugs	10	18	1	2.80
†776	Same as No. 775 but with angle clamp	10	19	1	3.00

*Schedule R discounts.
†Schedule H discounts.

Porcelain Screw Plug Flush Receptacles

N. E. C. Standard.
660 watts, 250 volts each outlet.



No. 1708

Cat. No.	Description	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
1708	Single receptacle; porcelain cup $2\frac{9}{16}$ x $1\frac{19}{32}$ x $1\frac{11}{32}$ in. deep; screw spacings—outside, $3\frac{9}{32}$ in., inside, $2\frac{13}{16}$ in.	100	35	10	$0.42
546	Duplex receptacle; porcelain cup $2\frac{13}{16}$ x $1\frac{11}{16}$ x $1\frac{19}{32}$ in. deep; screw spacing, $3\frac{9}{32}$ in.	30	15	10	1.20

*Schedule H discounts.

Flush Tumbler Switches

3951 Series—Shallow porcelain cups ($1\frac{3}{32}$-in. deep) with stationary shield that covers entire mechanism. The switch mechanism has positive "kick-off." Handles are of brown composition with indications. All switches $2\frac{9}{16}$ x $1\frac{11}{16}$ x $1\frac{3}{32}$ in. deep, except No. 3951 which is $2\frac{9}{16}$ x $1\frac{7}{16}$ x $1\frac{3}{32}$ in. deep. Screw spacings: outside, $3\frac{9}{32}$ in.; inside $2\frac{13}{16}$ in. See table on next page.

3961 Series—Switch cup and cover of brown bakelite, entirely enclosing mechanism. Covers are held in position by lugs at each end of cup; ears fit into recesses at each end of cover, and are firmly held in place by screws. Brown bakelite handles. All switches $2\frac{9}{16}$ x $1\frac{5}{8}$ x $1\frac{5}{16}$ in. deep. Screw spacing: outside $3\frac{9}{32}$ in.; inside, $2\frac{13}{32}$ in. (See table on next page.)



No. 3961

(Continued on Next Page)

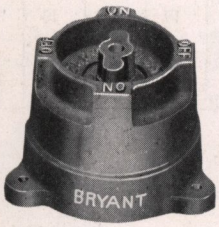
FLUSH TUMBLER SWITCHES

Cat. No.	Description	Cap., Amp. at 125 volts	Cap., Amp. at 250 volts	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
	3951 Series Switches						
3951	Single-pole indicating	10	5	100	47	10	$0.70
3951 Lum.	Single-pole indicating with luminous tip	10	5	100	47	10	1.20
3952	Double-pole indicating	10	10	50	27	10	1.40
3953	3-point	10	5	50	28	10	1.00
3953 Lum.	3-point with luminous tip	10	5	50	28	10	1.50
3954	4-point	5	2	10	5	10	4.00
3955	Double-pole indicating	20	10	10	5	10	1.60
3920	Single-pole; quadruple break indicating	20	10	50	28	10	1.40
	3961 Series Switches						
3961	Single-pole indicating	10	5	50	14	10	1.10
3962	Double-pole indicating	10	10	10	5	10	1.80
3963	3-point	10	5	20	6	10	1.40
3964	4-point	5	2	10	5	10	4.40
3965	Double-pole indicating	20	10	10	6	10	2.00
3970	Single-pole; quadruple break indicating	20	10	20	12	10	1.80

*Schedule H discounts.

"Perkins" Expulsion Type Surface Switches

N. E. C. Standard.

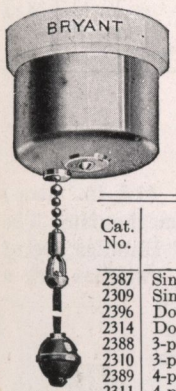


No. 781

Reversible triple-pole, 2-hp., 3-phase, 250 and 600-volt switches for inductive loads. Switch mechanism has a composition base and a handle that indicates switch position. Barriers between parts of opposite polarity effectively limit the arc. Furnished with cast iron or steel covers.

Cat. No.	Description	Cap., amp. 250 volts	Cap., amp. 600 volts	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
780	Switch mechanism without cover	20	10	10	13	1	$4.50
781	Switch with black cast iron indicating cover	20	10	10	37	1	8.00
782	Switch with black stamped steel cover	20	10	10	31	1	5.00
783	Black cast iron cover only			10	24	1	3.50

*Schedule H discounts.



No. 2387

"Perkins" Ceiling Pull Switches

N. E. C. Standard.

Non-indicating switches with porcelain bases, metal covers, short chain and connector, and 10-ft. heavy linen cord with composition ball.

Cat. No.	Description	Cap., amp. 125 volts	Cap., amp. 250 volts	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price each
2387	Single-pole, solid	10	5	30	22	10	$2.00
2309	Single-pole, slotted	10	5	30	22	10	2.00
2396	Double-pole, solid	10	10	10	8	10	2.36
2314	Double-pole, slotted	10	10	10	8	10	2.36
2388	3-pt., solid	10	5	10	8	10	2.36
2310	3-pt., slotted	10	5	10	8	10	2.36
2389	4-pt., solid	5	2	10	8	1	2.36
2311	4-pt., slotted	5	2	10	8	1	2.36

*Schedule H discounts.

"Pyrotite" Enclosed Plug Fuses

N. E. C. Standard.

Rated for 125 volts as follows: No. Pyro-3, 3 amp.; No. Pyro-6, 6 amp.; No. Pyro-10, 10 amp.; No. Pyro-15, 15 amp. Std. pkg. of 500; wt., 44 lb. carton, 50. List price each, $0.07. Schedule J3 discounts.

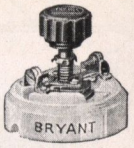


No. 66335

"Perkins" Surface Snap Switches

N. E. C. Standard.

Switches with porcelain bases and metal or porcelain covers and handles.



No. 2000 With Cover Off

Cat. No.	Description	Cap., amp. 125 volts	Cap., amp. 250 volts	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price each
	Single-pole Switches with Porcelain Bases, Metal Covers and Composition Handles						
2220	Solid	6	3	100	25	10	$0.56
2000	Slotted	6	3	100	25	10	.56
2035	Solid, indicating	6	3	100	25	10	.64
2047	Slotted, indicating	6	3	100	25	10	.64
2221	Solid	10	5	100	50	10	.96
2001	Slotted	10	5	100	50	10	.96
2036	Solid, indicating	10	5	100	50	10	1.08
2048	Slotted, indicating	10	5	100	50	10	1.08
2831	Solid	20	10	10	15	1	1.80
2832	Slotted	20	10	10	15	1	1.80
2833	Solid, indicating	20	10	10	15	1	2.00
2834	Slotted, indicating	20	10	10	15	1	2.00
	Double-pole Switches with Porcelain Bases, Metal Covers and Composition Handles						
2013	Solid		30	30	41	1	3.40
2021	Slotted		30	30	41	1	3.40
2042	Solid, indicating		30	30	41	1	3.60
2054	Slotted, indicating		30	30	41	1	3 60
	Double-pole Switches with Porcelain Bases, Covers and Handles						
2607	Solid	10	5	10	5	1	1.20
2608	Slotted	10	5	10	5	1	1.20
2609	Solid, indicating	10	5	10	5	1	1.36
2610	Slotted, indicating	10	5	10	5	1	1.36

*Schedule H discounts.

Plug Fuse Cutout Bases

N. E. C. Standard; 30 amp., 125 volts.

Heavy porcelain bases and brass shells.



No. 62569



No. 62965

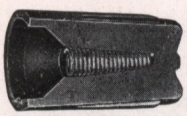
Cat. No.	Description	Dimen., in.	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
62569	Single-pole, main	2¾ x1 2⁹⁄₃₂	100	46	10	$0.48
62965	Double-pole, main	2 15⁄16 x2 9⁄16	50	35	10	.64
625	Double-pole, main with marine screw shells	3½ x2⅞	50	65	10	1.92

*Schedule J2 discounts.

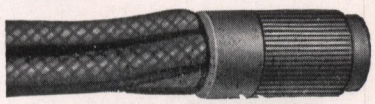
Solderless Wire Connectors

N. E. C. Standard.

A copper-coated steel spring, mounted in the crown of the composition connector, threads on the wires, making a positive contact between them. A joint can be made in 40 to 60 seconds.



Sectional View, Showing Helical Tapered Spring



Showing Finished Joint

Cat. No.	Description	Std. pkg. Quan.	Std. pkg. Wt., lb.	Carton quan.	*List price, each
767	Brown composition; for joining 2 or 3 No. 18 wires. Especially for fixture wiring	1000		100	$0.18
768	Black composition; for joining combinations of Nos 12, 14, 16, and 18 B. & S. wires up to a maximum of two No. 12 or four No. 14 wires	1000	18	100	.20
769	Brown composition; for connecting wires up to three No. 10 B. & S.	1000	18	100	.22

*Schedule H discounts.

CIRCLE F MFG. CO.

Manufacturers of Guaranteed Wiring Devices

TRENTON, N. J.

"5000 Line" of Interchangeable Brass-shell "Multilok" Sockets

N. E. C. Standard



5000 5100 7200 5300



51-C 52-C 54-C 56-C



53-B 54-B 55-B 56-B

"5000 LINE" OF INTERCHANGEABLE BRASS-SHELL "MULTILOK" SOCKETS

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	"Multilok" Socket Bodies Only				
5000	Key body; 250 watts, 250 volts	25	250	40	$0.26
5100	Keyless body; 660 watts, 250 volts	25	250	40	.23
5200	Open type pull socket body, 250 watts, 250 volts	25	250	40	.40
7200	"Gem" pull chain body; 250 watts, 250 volts	25	250	40	.40
5300	Turn-Nob body; 250 watts, 250 volts	25	250	40	.26
	"Multilok" Socket Caps Only				
50–C	Swivel cap for bridge arms	Bulk	250	20	.12
51–C	Pendant cap	25	250	11	.10
52–C	1/8" cap	25	250	11	.10
54–C	3/8" cap	25	250	12	.16
56–C	1/8" cap, side outlet	25	250	12	.12
58–C	1/8" cap without set screw	25	250	11	.10
59–C	1/8" cap with punched side outlet	25	250	11	.12
	"Multilok" Brass Bases				
53–B	Base for 3" and 3 1/4" boxes; 3 3/4" outside diameter; 2 3/4" screw-hole spacing	10	100	52	.37
54–B	Base for 3", 3 1/4" and 4" boxes; 4 1/2" outside diameter; 3 3/4" screw-hole spacing	5	100	100	.67
55–B	Cleat base; 3 3/16x2 3/4" outside dimensions, 2 1/8" screw-hole spacing	10	100	30	.23
56–B	Concealed base; 2 1/4" outside diameter; 1 1/8" screw-hole spacing	10	100	25	.18
57–B	Slotted base; 2 1/4" outside diameter; 1 1/8" screw-hole spacing	10	100	25	.18

Standard finish is brush brass; special finishes cost extra.

Composition Bushings and Insulators

For changing 1/8" or 3/8" caps for pendant use.



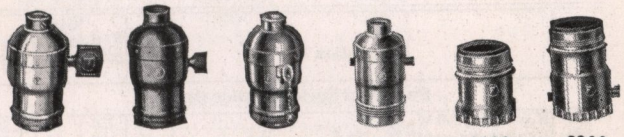
1257 701 1258

Cat. No.	Description	Std. Pkg.	List price
701	Insulator for No. 6 chain	100	$0.07
1257	1/8" bushing	100	.01
1258	3/8" bushing	100	.02

Insulators furnished in brass or nickel

Miscellaneous Brass-shell Sockets, Pendant Switches and Wall Receptacles

N. E. C. Standard



1022-C 1072-C 2222-C 4842-C 6100 6200



62-C 66-C 4541-C 193 195

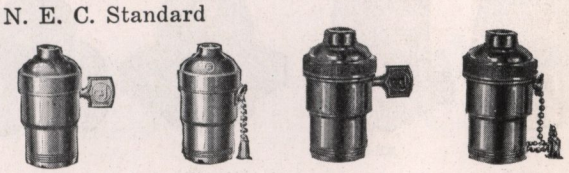
MISCELLANEOUS BRASS-SHELL SOCKETS, PENDANT SWITCHES AND WALL RECEPTACLES

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	"Security Lock" Sockets				
1022–C	Key socket with 1/8" cap; 250 W., 250 V	25	250	50	$0.36
1072–C	Turn-Nob socket with 1/8" cap; 250 W., 250 V	25	250	50	.36
2222–C	Pull chain socket with 1/8" cap; 250 W., 250 V	25	250	50	.50
4842–C	Electrolier push-thru socket with 1/8" cap; 250 W., 250 V	25	250	45	.39
	"Multilok" Electrolier Sockets				
6100	Keyless socket body; 250 W., 250 V	25	250	24	.23
6200	Push-thru socket body; 250 W., 250 V	25	250	36	.29
62–C	1/8" cap	25	250	12	.10
66–C	Side-outlet cap	25	250	12	.12
68–C	1/8" cap without set screw	25	250	12	.10
69–C	1/8" cap with punched side outlet	25	250	12	.12
	Pendant Switch				
4541–C	Pendant switch; 660 W., 250 V	10	100	18	.50
	Brass-shell Wall Receptacles				
193	Keyless slotted base; 660 W., 250 V.; screw-hole spacing, 1 1/4"	10	100	22	.25
195	Key slotted base; 250 W., 250 V.; screw-hole spacing, 1 1/2"	10	100	35	.44

Standard finish is brush brass. Special finishes cost extra.

Bakelite Sockets

N. E. C. Standard



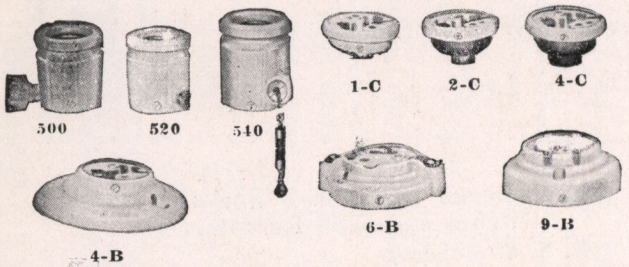
8081-C 8281-C 8097-C 8297-C

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
8081–C	Key, pendant cap; 250 W., 250 V	25	250	47	$0.40
8097–C	Key, 1/8" cap socket; 250 W., 250 V	25	250	47	.40
8181–C	Keyless, pendant cap; 660 W., 250 V	25	250	42	.37
8197–C	Keyless, 1/8" cap socket; 660 W., 250 V	25	250	42	.37
8281–C	Pull chain, pendant cap; 250 W., 250 V	25	250	47	.50
8297–C	Pull chain, 1/8" cap socket; 250 W., 250 V	25	250	47	.50

(Continued on Next Page)

"500 Line" of Interchangeable Porcelain Sockets

N. E. C. Standard



"500 LINE" OF INTERCHANGEABLE PORCELAIN SOCKETS

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	Porcelain Socket Bodies Only				
500	Key body; 250 W., 250 V.	10	100	28	$0.26
520	Keyless body; 660 W., 250 V.	10	100	22	.23
540	*Pull chain body; 250 W., 250 V.	10	100	32	.59
	*Standard length of chain is 8".				
	Porcelain Caps Only				
1-C	Pendant cap	10	100	12	.10
2-C	⅛" brass fixture cap	10	100	17	.20
3-C	¼" brass fixture cap	10	100	17	.30
4-C	⅜" brass fixture cap	10	100	17	.24
5-C	⅜" aluminum-shell fixture cap	10	100	17	.40
6-C	½" aluminum-shell fixture cap	10	100	17	.42
7-C	½x⅜" iron fixture cap	10	100	30	.45
	Porcelain Bases				
1-B	Small cleat base; outside dimensions, 2x2 9/16"; screw-hole spacing, 1"	10	100	22	.14
2-B	Small concealed base; outside diameter, 2⅛"; screw-hole spacing, 1"	10	100	25	.12
3-B	Moulding base; outside dimensions, 2 13/16x2 screw-hole spacing, 2¼"	10	100	35	.15
4-B	Base for 3" and 3¼" outlet boxes; outside diameter, 3¾"; screw-hole spacing, 2¾"	10	100	65	.30
5-B	Base for 4" outlet boxes; outside diameter, 4⅝"; screw-hole spacing, 3½"	5	100	95	.40
6-B	Large cleat base; outside dimensions, 3x2 9/16"; screw-hole spacing, 2 3/16"	10	100	30	.14
7-B	Large concealed base; outside diameter, 2¾"; screw-hole spacing, 2¼"	10	100	35	.12
9-B	Combination base; outside diameter, 2½"; screw-hole spacing, 2 1/16"	10	100	30	.12
11-B	Reflector base; outside diameter, 1⅞"; screw-hole spacing, 1½"	10	100	15	.12

Shadeholders for Porcelain Sockets

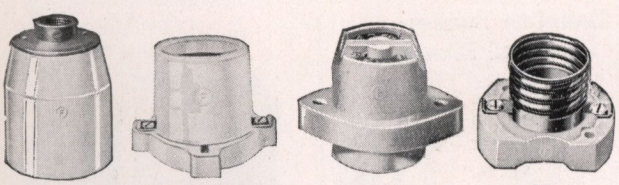
N. E. C. Standard

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
3005	2¼" holder	12	144	5	$0.13


3005

Porcelain Mogul Sockets and Receptacles

N. E. C. Standard


18 224 70 73

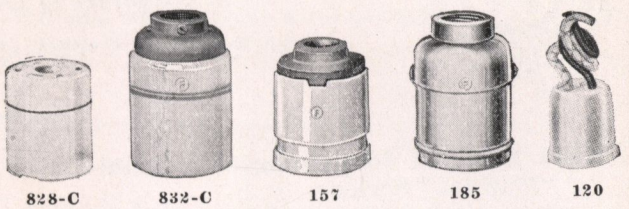
PORCELAIN MOGUL SOCKETS AND RECEPTACLES

1500 Watts 600 Volts

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
18	Mogul socket with ⅜" cap	1	50	40	$0.40
224	Mogul cleat receptacle; outside diameter, 3 9/16"; screw-hole spacing, 3"	1	50	50	.75
70	Mogul sign receptacle with ears; outside dimensions, 2x2 13/16"; screw-hole spacing, 2¼"	1	50	60	.90
73	Mogul receptacle, open base; outside diameter, 2 3/16"; screw-hole spacing, 2¾"	1	50	35	.60

Porcelain Weatherproof Fixture and Reflector Sockets

N. E. C. Standard


828-C 832-C 157 185 120

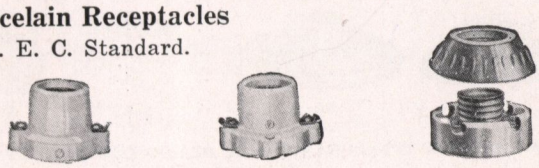
PORCELAIN WEATHERPROOF FIXTURE AND REFLECTOR SOCKETS

660 Watts 250 Volts

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
120	Porcelain pigtail socket with 6" of No. 14 stranded rubber-covered wires	10	100	30	$0.14
154	Keyless porcelain socket with ⅛" metal cap	10	100	30	.36
157	Keyless porcelain socket with ⅜" metal cap	10	100	30	.39
185	Aluminum-shell fixture socket with ½" cap	10	100	50	.60
828-C	Porcelain reflector socket with flat cap	10	100	40	.35
832-C	Porcelain reflector socket with ½" cap	10	100	55	.65

Porcelain Receptacles

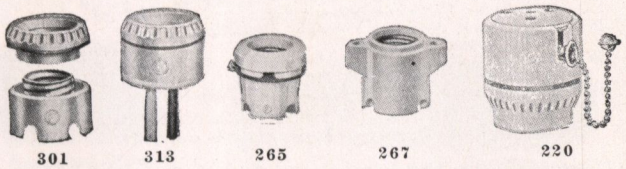
N. E. C. Standard.


223 226 292

PORCELAIN RECEPTACLES

660 Watts 250 Volts

Cat. No.	Description	Outside dimen., in.	Screw-hole spacing, in.	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	Porcelain Cleat Receptacles						
223	With 1 center screw hole	2½x2	....	10	100	30	$0.12
225	With shadeholder groove; 2 screw holes on outside; solid center contact	2½x2	2	10	100	30	.20
226	Without shadeholder groove; 2 screw holes on outside; solid center contact	2½x2½	2	10	100	25	.12
227	Same as 225 but with spring center contact	2½x2	2	10	100	30	.23
229	Same as No. 226 but with clip terminals	2½x2½	2	10	100	30	.12
	Porcelain Receptacles for Open or Concealed Wiring						
292	2-piece receptacle; covered terminals	2⅛	1 7/16	10	100	35	.25
293	2-piece receptacle; covered terminals; for concealed wiring only	2⅛	1 7/16	10	100	35	.25


301 313 265 267 220

Sign, Outlet Box and Ceiling Light Porcelain Receptacles

301	2-piece receptacle; slotted base	10	100	23	$0.20
304	Screw ring receptacle; covered terminals	10	100	32	.25
265	1-piece receptacle; metal sign type	10	100	30	.28
267	1-piece receptacle; metal sign type	10	100	30	.17
294	2-piece receptacle; slotted base	10	100	32	.20
313	2-piece receptacle with 8" of No. 18 wire	10	100	21	.28
314	2-piece receptacle with 6" of No. 14 wire	10	100	22	.28
320	Shallow 2-piece receptacle, 8" of No. 18 wire	10	100	22	.28

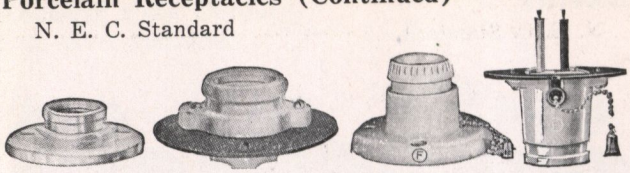
Diameter of hole required—1½" for Nos. 301, 304, 313 and 314; 1⅜" for No. 267.

Sign, Outlet Box and Ceiling Light Porcelain Pull-chain Receptacles With Removable Rings

220	With 3' of chain (short back)	10	100	50	.98
220-S	With 8" of chain and 6' of linen cord (short back)	10	100	50	.83
221	With 8" of chain (short back)	10	100	55	.75

Porcelain Receptacles (Continued)

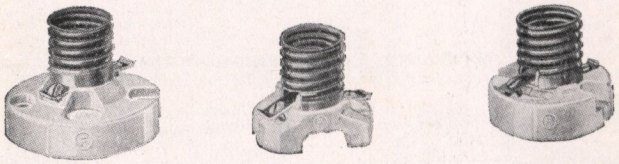
N. E. C. Standard



202 307 360 375

PORCELAIN RECEPTACLES (Continued)

Cat. No.	Description	Outside dimen., in.	Screw-hole spacing, in.	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	Porcelain Outlet Box Receptacles with Shadeholder Grooves						
202	For 3″ or 3¼″ outlet boxes	3¾	2¾	1	100	80	$ 40
204	For 4″ outlet box	4⅝	3½	1	100	120	.50
	Porcelain Outlet Box Receptacles with Open Terminals and Round Covers						
307	With 3¼″ cover			5	100	50	.45
308	With 4″ cover			5	100	60	.51
	Porcelain Outlet Box Pull Chain Receptacles						
360	For 3¼″ box with 8″ chain	3⅝	2¾	1	100	80	.75
360-S	For 3¼″ box with 8″ chain and 6′ cord	3⅝	2¾	1	100	80	.75
361	For 3¼″ box with 8″ chain and insulator	3⅝	2¾	1	100	80	.75
362	For 4″ box with 8″ chain	4⅝	3½	1	100	120	.90
362-S	For 4″ box with 8″ chain and 6′ cord	4⅝	3½	1	100	120	.90
363	For 4″ box with 8″ chain and insulator	4⅝	3½	1	100	120	.90
	Porcelain Outlet Box Pull-chain Receptacles with Round Covers						
	Fitted with 8 inches of pull chain, and with 6 inches of No. 14 stranded rubber-covered lead wires.						
374	With 3¼″ cover; without lead wires			1	50	35	.67
375	With 3¼″ cover; with lead wires			1	50	35	.72
376	With 4″ cover; without lead wires			1	50	40	.70
377	With 4″ cover; with lead wires			1	50	40	.75



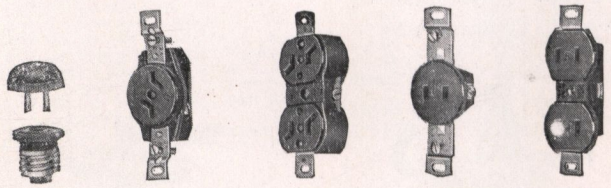
222 231 235

Outlet Box and Marine Porcelain Receptacles

222	Receptacle only	2⅜	2 1/16	10	250	80	.20
231	Receptacle only	1¼x2	1½	10	250	36	.17
235	Receptacle only	2	1½	10	250	45	.18

Standard Attachment Plugs and Receptacles

N. E. C. Standard



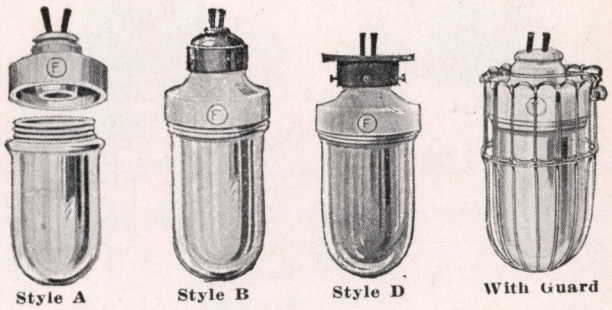
101 104 105 130 132

STANDARD ATTACHMENT PLUGS AND RECEPTACLES

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
100	Composition pony attachment plug body; screw type; parallel blade holes; 660 w.; 250 v.	25	250	15	$0.08
110	Composition pony attachment plug cap; parallel blades	25	250	15	.08
101	Composition pony attachment plug complete; parallel blades; 660 W., 250 v.	25	250	25	.14
104	Single pin-type porcelain receptacle	10	100	15	.30
105	Duplex pin-type porcelain receptacle	10	100	25	.48
130	Single pin-type Bakelite receptacle	10	100	12	.30
132	Duplex pin-type Bakelite receptacle	10	100	15	.48

Vaporproof Receptacles

N. E. C. Standard



Style A Style B Style D With Guard

VAPORPROOF RECEPTACLES

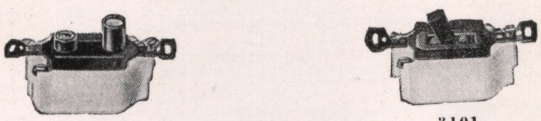
Style A—Pendant Type
Style B or Bracket Type—Threaded for regular ½″ pipe or conduit
Style C or Flange Type—For ceiling, side wall or 3¼″ outlet box
Style D or Flange Type—For 4″ outlet box.

Cat. No.	Description	Std. pkg.	Std. pkg. wt., lb.	List price doz.
	For 25, 40 and 60-watt Lamps			
*251	Style A complete	12	30	$15.00
*252	Style B complete	12	35	18.00
*253	Style C complete	12	40	19.00
*260	Style D complete	12	45	20.00
257	Style B casting	84	40	3.00
258	Style C casting	84	60	4.00
258-x	Style D casting	84	75	5.00
259	Style A, B, C or D porcelain cap	84	80	6.00
§261	Clear glass globe	84	100	8.00
§262	Ruby glass globe	84	100	16.00
263	Wire guard	84	40	8.00
264	Gasket	84	5	1.00
	For 80 and 100-watt Lamps			
*254	Style A complete	12	55	30.00
*255	Style B complete	12	60	33.00
*256	Style C complete	12	65	34.00
*260-w	Style D complete	12	70	35.00
257	Style B casting	84	40	3.00
258	Style C casting	84	60	4.00
258-x	Style D casting	84	75	5.00
259-w	Style A, B or C porcelain cap	48	60	12.00
†261-w	Clear glass globe	48	100	16.00
†262-w	Ruby glass globe	48	100	36.00
263-w	Wire guard	48	30	12.00
264-w	Gasket	48	5	2.00

All receptacles furnished with 8″ of No. 14 stranded rubber-covered wires. Prices for complete fittings do not include wire guards.
*Complete receptacle consists of cap, globe and gasket in Style A; cap, casting, globe and gasket in Styles B, C and D.
§Inside dimensions, 2¾x6″.
†Inside dimensions, 3¾x7¼″.

Shallow Flush Switches

N. E. C. Standard



3001 3101

SHALLOW FLUSH SWITCHES

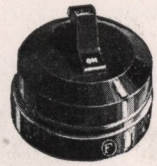
5 Amperes—250 Volts 10 Amperes—125 Volts

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
3001	Pushbutton flush switch; single-pole	1	100	35	$0.35
3003	Pushbutton flush switch; 3-way	1	100	40	.50
3101	Toggle indicating flush switch; single-pole	1	100	35	.35
3103	Toggle flush switch; 3-way	1	100	40	.50

(Continued on Next Page)

Surface Switches

N. E. C. Standard



3111



3010

SURFACE SWITCHES

5 Amperes—250 Volts — 10 Amperes—125 Volts

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
3111	Toggle indicating switch; concealed base	10	100	25	$.48
3112	Toggle indicating switch; slotted base	10	100	25	.48

SURFACE SWITCHES

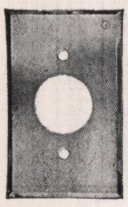
3 Amperes—250 Volts — 6 Amperes—125 Volts

3010	S.p. indicating toggle, concealed base	10	100	22	$0.32
3011	S.p. indicating toggle, slotted base	10	100	22	.32
3012	S.p. indicating toggle with 3¼″ cover	10	100	35	.38
3013	S.p. indicating toggle with 4″ cover	10	100	40	.40
3015	3-way toggle, concealed base	10	100	22	.52
3016	3-way toggle, slotted base	10	100	22	.52
3017	3-way toggle, with 3¼″ cover	10	100	35	.56
3018	3-way toggle, with 4″ cover	10	100	40	.58

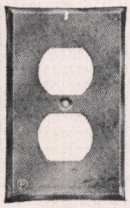
Bakelite cap snaps on and is released by pressure.

Flush Switch and Receptacle Plates

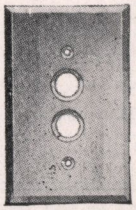
N. E. C. Standard



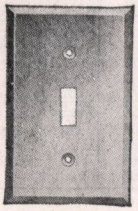
91



92



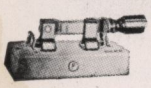
2201



2301

FLUSH SWITCH AND RECEPTACLE PLATES

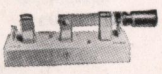
Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	.040″ Brass Plates				
2201	1-gang pushbutton switch plate	1	100	20	$0.14
2202	2-gang pushbutton switch plate	1	100	30	.28
2203	3-gang pushbutton switch plate	1	100	40	.42
2301	1-gang toggle switch plate	1	100	20	.14
2302	2-gang toggle switch plate	1	100	30	.28
2303	3-gang toggle switch plate	1	100	40	.42
91	Single plate; stamped brass	1	100	15	.20
92	Duplex plate	1	100	15	.20
	Bakelite Plates				
2401	1-gang pushbutton switch plate	50	100	12	.15
2421	1-gang toggle switch plate	50	100	12	.15
2431	1-gang receptacle plate	50	100	12	.15
2441	Duplex receptacle plate	50	100	12	.15
2402	2-gang pushbutton switch plate	25	100	25	.30
2422	2-gang toggle switch plate	25	100	25	.30
2423	3-gang toggle switch plate	15	100	35	.45
2424	4-gang toggle switch plate	10	100	48	.60
2452	Combination pushbutton and single receptacle plate	25	100	25	.30
2462	Combination pushbutton and duplex receptacle plate	25	100	25	.30
2472	Combination toggle and single receptacle plate	25	100	25	.30
2482	Combination toggle and duplex receptacle plate	25	100	25	.30



1831

Telephone and Battery Switches

N. E. C. Standard



1841

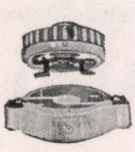
TELEPHONE AND BATTERY SWITCHES

15 Amperes — 125 Volts

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
1831	Single-pole single-throw switch	10	250	80	$0.20
1841	Single-pole double-throw switch	10	100	40	.32
1832	Double-pole single-throw switch	10	100	55	.35
1842	Double-pole double-throw switch	10	100	65	.50

Rosettes

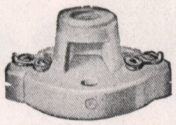
N. E. C. Standard



330



333



319



350

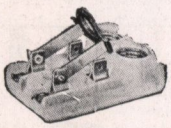
ROSETTES

Fusible Type, 2 amperes—125 volts — Fuseless Type, 3 amperes—250 volts

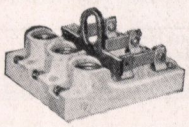
Cat. No.	Description	Base dimensions, in.	Screw-hole spacing, in.	Carton	Std. pkg. lb.	Std. pkg. wt.,	List price each
325	Fusible rosette, clean base	2¼x3	1½	10	100	45	$.20
326	Fusible rosette, molding base	2½x2½	1½	10	100	55	.20
327	Fusible rosette, concealed base	2⅜	1 7/16	10	100	50	.20
330	Fuseless rosette, cleat base	2¼x3	1½	10	100	45	.16½
331	Fuseless rosette, molding base	2½x2½	1½	10	100	50	.16½
333	Fuseless rosette, concealed base	2⅜	1 7/16	10	100	45	.16½
319	Fuseless rosette, one-piece combination cleat and concealed base	2¼x2⅞	1⅜	10	100	30	.10
350	Rosette for 3″ or 3¼″ outlet boxes	3¾	2¾	10	100	60	.10
355	Rosette for 4″ outlet box	4⅝	3½	5	100	100	.17

Entrance and Panel Switches

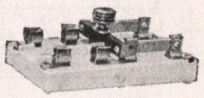
N. E. C. Standard



1801



1803



1804

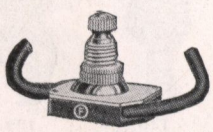
ENTRANCE AND PANEL SWITCHES

Cat. No.	Description	Dimensions, in.	Carton	Std. pkg.	Std. pkg. wt., lb.	List price, each
1801	Double pole; main line; 30a., 110 V	5 7/32x3¼	1	100	165	$0.90
1802	Double pole; main line; 30a., 250 V	6¼x3¼	1	100	225	1.00
1804	Double pole; main line; 30a., 250 V.; for enclosed fuses	6 7/16x3⅜	1	50	155	1.10
1803	Triple pole; main line; 30a.; 250 V	5 9/16x4¾	1	50	150	1.40
1814	Double pole; single branch; 30a., 125V.	6 7/32x3	1	50	190	1.00
1815	Double pole; double branch; 30a., 125V.	10 13/32x3	1	50	190	3.40
1816	Triple to double pole; double branch; 30a., 125 V	11 9/16x3	1	50	200	3.60

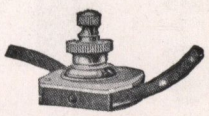
All switches have reversible blades.
Furnished with spade or bar handles as specified.

Canopy Switches

N. E. C. Standard



1852



1853

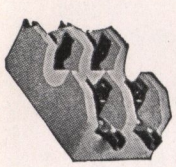
CANOPY SWITCHES

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
1852	Canopy switch; con position base with ¼″ stem and 2 nuts for clamping	10	100	7	$0.65
1856	Same as No 1852 but with 5/16″ stem	10	100	7	.65
1853	Canopy switch; composition base with 1¼″ stem and single clamping nut	10	100	7	.65
1857	Same as No. 1853 but with 5/16″ stem	10	100	7	.65

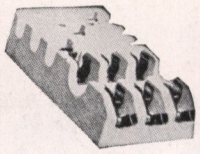
Stems of these switches slip a ⅜″ hole—27 threads per inch.
Fitted with 6″ of No. 18 stranded rubber-covered wires extending from sides.
Standard finish is brush brass. Special finishes cost extra.

Enclosed Fuse Cutouts

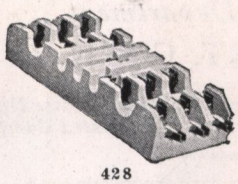
N. E. C. Standard



411



423



428

ENCLOSED FUSE CUTOUTS

Cat. No.	Description	Dimensions, in.	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
	***0-30 Amperes—250 Volts**					
403	Single pole, main line	3¾ x1⅜	5	50	30	$0.40
410	Double pole, main line	3¾ x2¾	1	50	55	.55
412	Triple pole, main line	3¾ x4	1	50	80	.80
420	Double pole, single branch	4⅞ x2¾	1	50	75	.70
422	Triple pole, single branch	5⅞ x4	1	50	140	1.35
425	Double pole, double branch	7 1/16x2¾	1	25	60	1.30
427	Triple pole, double branch	8 1/16x4	1	25	110	2.25
429	Triple to double pole; double branch	8 13/16x2¾	1	25	75	1.50
	***0-30 Amperes—600 Volts**					
460	Single pole; main line	7¼ x1¾	2	50	50	.60
	31-60 Amperes—250 Volts					
404	Single pole; main line	5 x1½	5	50	40	.65
411	Double pole; main line	5 x3 5/16	1	50	120	1.40
413	Triple pole; main line	5 x4⅞	1	50	170	2.00
421	Double pole; single branch	6¾ x3 5/16	1	50	165	1.75
423	Triple pole; single branch	7 15/16x4 13/16	1	25	155	3 00
426	Double pole; double branch	10⅝ x3 5/16	1	25	125	3.50
428	Triple pole; double branch	11¾ x4 13/16	1	10	90	6.00
430	Triple to double pole; double branch	11¾ x3 5/16	1	25	150	4.20
	31-60 Amperes—600 Volts					
461	Single pole; main line	7 1/16x2⅛	1	50	75	.90
	61-100 Amperes—250 Volts					
405	Single pole; main line	8⅝ x2 3/16	1	25	90	1.40
414	Double pole; main line	8⅝ x4	1	10	47	2.80
415	Triple pole; main line	8⅝ x6	1	10	85	4.00

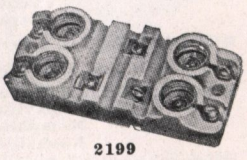
*0-30 Amp. cutouts are not furnished with lugs.

Edison Plug Cutouts

N. E. C. Standard



2569



2199

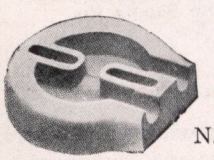
EDISON PLUG CUTOUTS

0-30 Amperes **125 Volts**

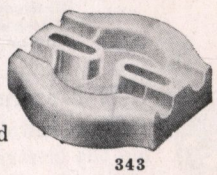
Cat. No.	Description	Dimensions, in.	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
2569	Single pole; main line	2½ x2⅛	5	150	70	$0.24
2965	Double pole; main line	2½ x3	5	150	100	.32
2165	Triple pole; main line	2½ x4½	5	100	110	.55
1935	Double pole; single branch	3½ x3	5	100	95	.35
8042	Triple pole; single branch	4½ x4½	1	75	75	.70
2587	Double pole; double branch	5 5/32x3	5	100	155	.62
2199	Triple to double pole; double branch	6⅛ x3	5	100	190	.68
2135	Triple pole; double branch	6⅛ x4½	1	50	150	.94

Porcelain Switch Bases

N. E. C. Standard



342



343

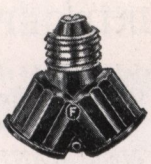
PORCELAIN SWITCH BASES

Will fit any 5 or 10-amp. snap switch or brass-shell wall socket

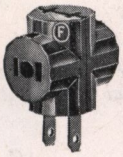
Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
342	Porcelain switch base for molding terminal work	10	200	30	$0.08
343	Porcelain switch base for through molding work	10	200	30	.08
344	Porcelain switch base for cleat or concealed work	10	200	30	.08

Bakelite Multiple Tap Plugs and Twin-Light Sockets

N. E. C. Standard



602



604



1068



612

BAKELITE MULTIPLE TAP PLUGS AND TWIN SOCKETS

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
602	Bakelite Twin-light Socket	10	100	15	$0.35
604	Bakelite 3-way tap plug; parallel blades	10	100	10	.20
1068	Connector plug, composition	10	100	15	.20
612	Bakelite pull-chain current tap	10	100	20	1.00

Table Tap and Cigar Lighter



608



958

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
608	Bakelite table tap, 6 ft. cord and attachment plug, complete	1	144	95	$1.50
958	Quick-Lite cigar lighter, 5 ft. cord and attachment plug, complete	1	144	120	1.75
959	Cigar-Lighter Element, only	10	100	10	0.35

Radio Materials

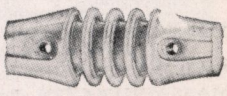
N. E. C. Standard—Underwriters Approved



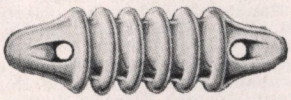
248



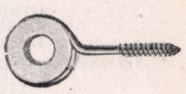
100-R



150-R



200-R



No. 1

RADIO MATERIALS

Cat. No.	Description	Carton	Std. pkg.	Std. pkg. wt., lb.	List price
248	"Little Joe" lightning arrester with heavy brass clamp and screws for fastening	*1	100	50	$1.50
100-R	†"Little Joe" porcelain antennae insulator (2¾" long; 1⅛" diam.; ¼" hole; 2⅝" creepage surface)	500	2500	325	.10
150-R	†"Medium Joe" porcelain antennae insulator (3¾" long; 1⅜" diam.; 9/32" hole; 4" creepage surface)	150	950	225	.15
200-R	†"Big Joe" porcelain antennae insulator (5" long; 1½" diam., 5/16" hole; 4½" creepage surface)	125	800	275	.20
1	**Screw-eye insulator; 3" overall; knob, 1 1/16" diameter, 9/16" hole	§500	3000	350	.05
6	**Screw-eye insulator; 7½" overall; knob, 1 1/16" diameter, 9/16" hole	§250	1500	225	.10

*Packed in attractive display cartons of 12 each, when specified.
§Packed in display cartons of 25 each, when specified.
†Can be furnished in brown or white glaze.
**For radio antennae and telephone wires.

GENERAL ELECTRIC COMPANY

Merchandise Department

BRIDGEPORT, CONN.

General Electric Wiring Materials are sold through G-E Merchandise Distributors Listed Below.
For General Office, Sales Offices, Service Shops and Associated Companies, see page 88

G-E MERCHANDISE DISTRIBUTORS

ALABAMA, Birmingham, Matthews Electric Supply Co.
Mobile, Matthews Electric Supply Co.

ARIZONA, Phoenix, General Electric Supply Corp.

ARKANSAS, Little Rock, General Electric Supply Corp.

CALIFORNIA, Long Beach, General Electric Supply Corp.
Los Angeles, General Electric Supply Corp.
Oakland, General Electric Supply Corp.
San Diego, General Electric Supply Corp.
San Francisco, General Electric Supply Corp.

COLORADO, Denver, Hendrie & Bolthoff Mfg. & Supply Co.
General Electric Supply Corp.

CONNECTICUT, Bridgeport, Southern New England Elec. Co.
Hartford, Southern New England Elec. Co.
New Haven, Southern New England Elec. Co.
Waterbury, Southern New England Elec. Co.

DIST. OF COLUMBIA, Washington, National Electrical Supply Co.

FLORIDA, Jacksonville, General Electric Supply Corp.
Miami, General Electric Supply Corp.
Tampa, General Electric Supply Corp.

GEORGIA, Atlanta, General Electric Supply Corp.
Savannah, General Electric Supply Corp.

ILLINOIS, Chicago, General Electric Supply Corp.
Commonwealth-Edison Co.
Metropolitan Elec'l. Supply Co.
Rockford, Swords Electric Company
Springfield, General Electric Supply Corp.

INDIANA, Evansville, General Electric Supply Corp.
Fort Wayne, Protective Elec'l. Supply Co.
Indianapolis, General Electric Supply Corp.
South Bend, South Bend Electric Co.

IOWA, Burlington, Crescent Electric Supply Co.
Davenport, Crescent Electric Supply Co.
Des Moines, General Electric Supply Corp.
Dubuque, Crescent Electric Supply Co.
Sioux City, General Electric Supply Corp.

KANSAS, Salina, General Electric Supply Corp.
Wichita, Sutton Electric Supply Corp.

KENTUCKY, Louisville, General Electric Supply Corp.

LOUISIANA, New Orleans, General Electric Supply Corp.
Shreveport, General Electric Supply Corp.

MAINE, Bangor, General Electric Supply Corp.
Portland, General Electric Supply Corp.

MARYLAND, Baltimore, General Electric Supply Corp.

MASSACHUSETTS, Boston, General Electric Supply Corp.
New Bedford, Union Electric Supply Co.
Springfield, General Electric Supply Corp.

MICHIGAN, Detroit, Frank C. Teal Co.
General Electric Supply Corp.
Grand Rapids, C. J. Litscher Electric Co.
Jackson, C. J. Litscher Electric Co.
Kalamazoo, C. J. Litscher Electric Co.

MINNESOTA, Duluth, General Electric Supply Corp.
Minneapolis, General Electric Supply Corp.
St. Paul, General Electric Supply Corp.

MISSISSIPPI, Jackson, General Electric Supply Corp.

MISSOURI, Joplin, General Electric Supply Corp.
Kansas City, General Electric Supply Corp.
St. Joseph, General Electric Supply Corp.
St. Louis, General Electric Supply Corp.

MONTANA, Butte, General Electric Supply Corp.

NEBRASKA, Omaha, General Electric Supply Corp.

NEW JERSEY, Atlantic City, General Electric Supply Corp.
Jersey City, General Electric Supply Corp.
Newark, General Electric Supply Corp.
E. B. Latham & Company
Patterson, General Electric Supply Corp.

NEW YORK, Albany, Havens Electric Company
Binghamton, Southern Tier Elec'l. Supply Co.
Buffalo, The Falls Equipment Co., Inc.
New Rochelle, Royal Eastern Elec'l. Supply Co.
N. Y. City, E. B. Latham & Co.
Royal Eastern Elec'l. Supply Co.
(Also Borough of Brooklyn and L. I. City)
General Electric Supply Corp.
(Also Borough of Brooklyn and the Bronx)
Niagara Falls, The Falls Equipment Co., Inc.
Rochester, General Electric Supply Corp.
Syracuse, Syracuse Supply Co.
Utica, Langdon & Hughes Electric Co.

N. CAROLINA, Charlotte, General Electric Supply Corp.
Greensboro, National Electrical Supply Co.
Raleigh, General Electric Supply Corp.

N. DAKOTA, Fargo, General Electric Supply Corp.

OHIO, Akron, General Electric Supply Corp.
Cincinnati, General Electric Supply Corp.
Cleveland, General Electric Supply Corp.
Columbus, General Electric Supply Corp.
Dayton, General Electric Supply Corp.
Wm. Hall Electric Company
Toledo, General Electric Supply Corp.

OKLAHOMA, Oklahoma City, General Electric Supply Corp.
Tulsa, General Electric Supply Corp.

OREGON, Portland, General Electric Supply Corp.

PENNSYLVANIA, Erie, General Electric Supply Corp.
Philadelphia, General Electric Supply Corp.
Pittsburgh, General Electric Supply Corp.
Scranton, General Electric Supply Corp.

RHODE ISLAND, Providence, Union Electric Supply Co.

S. CAROLINA, Columbia, Perry-Mann Electric Co.

TENNESSEE, Chattanooga, General Electric Supply Corp.
Knoxville, General Electric Supply Corp.
Memphis, General Electric Supply Corp.
Nashville, General Electric Supply Corp.

TEXAS, Abilene, General Electric Supply Corp.
Amarillo, General Electric Supply Corp.
Dallas, General Electric Supply Corp.
El Paso, General Electric Supply Corp.
Houston, General Electric Supply Corp.
San Antonio, General Electric Supply Corp.

UTAH, Salt Lake City, General Electric Supply Corp.

VIRGINIA, Norfolk, General Electric Supply Corp.
Richmond, General Electric Supply Corp.

WASHINGTON, Seattle, General Electric Supply Corp.
Spokane, General Electric Supply Corp.
Tacoma, Home Electric Co.

W. VIRGINIA, Charleston, Virginian Electric, Inc.
Wheeling, Gee Electric Co.

WISCONSIN, Appleton, G-Q Electric Co.
La Crosse, General Electric Supply Corp.
Madison, Crescent Electric Supply Co.
Milwaukee, G-Q Electric Co.
Racine, G-Q Electric Co.

Products

A complete line of G-E Wiring Devices, etc., including N. E. C. Portable and Lamp Cords, Rigid and Flexible Conduit and Fittings, Steel-armored and Non-metallic Sheathed Conductors, Outlet Boxes and Fittings, Insulated Wire and Cable, Sockets, Receptacles, Switches, Switch Plates, Convenience Outlets, Plugs, Fuses, Fuse Pullers, Bell-ringing Transformers, Cable Terminals, Insulating Materials, Soldering Paste, Battery Chargers and Exhaust Fans.

G-E Merchandise

Representative products for wiring and completing the electrification of plants and equipment that will be found useful to the trade are listed herein. Detailed information on your electrical requirements may be obtained from General Electric Merchandise Distributors listed on this page, or direct from General Electric Company, Merchandise Department, Bridgeport, Conn. For a more detailed listing, ask for the Merchandise Catalog.

WIRING DEVICES

*Threaded Catch Interchangeable Lampholder Parts

N. E. C. Standard—Schedule B.



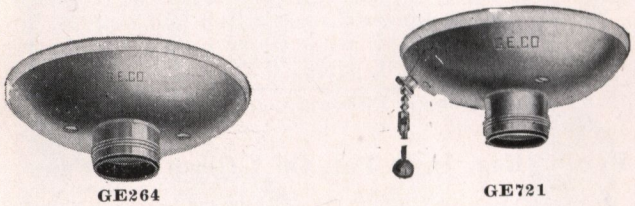
GE1630 GE1638 GE1671 GE1640 GE2700 GE2703

Cat. No.	Description	Carton	Std. pkg.
	Brush Brass		
GE1630	⅛″ female cap	25	250
GE1638	Keyless lampholder body; 660 watts, 250 volts	25	250
GE1671	Key lampholder body with 2¼″ shadeholder; 250 watts, 250 volts	10	100
GE1640	Key lampholder locking body, 250 watts, 250 volts	25	100
GE434	Key for locking lampholder	10	100
	Textolite		
GE2700	⅛″ cap	10	100
GE2703	Key lampholder body; 250 watts, 250 volts	10	100

*For complete listing, refer to detail catalog on wiring devices.

Lampholder Receptacles (One-piece Metal Shells)

N. E. C. Standard—Schedule B.
Standard finish, brush brass.

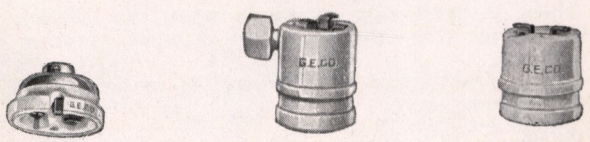


GE264 GE721

Cat. No.	Description	Carton	Std. pkg.
GE264	Keyless, insulated for 3¼″ and 4″ outlet box; 660 watts, 250 volts	1	50
GE721	Pull chain; insulated for 3¼″ and 4″ outlet box; 250 watts, 250 volts	1	50

*Snap-catch Interchangeable Porcelain Lampholder Parts

N. E. C. Standard—Schedule B.
Standard finish of exposed metal parts is nickel.



GE1224 GE1210 GE1214

Cat. No.	Description	Carton	Std. pkg.
GE1224	⅛″ cap	10	100
GE1223	Pendent cap	10	100
GE1210	Key lampholder body; 250 watts, 250 volts	10	100
GE1214	Keyless lampholder body; 660 watts, 250 volts	10	100

* For complete listing refer to detail catalog on wiring devices.

*Porcelain Lampholder Receptacles

N. E. C. Standard—Schedule B.
660 watts—250 volts.

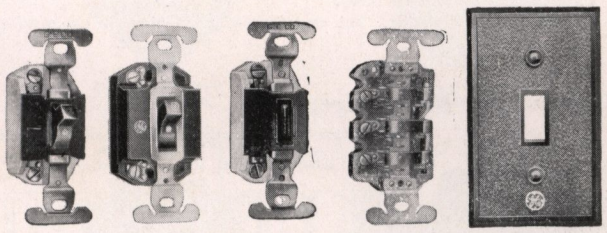


GE155 GE2582

Cat. No.	Description	Carton	Std. pkg.
	Conduit Box Type		
GE155	Keyless, shadeholder grooves; for 3¼″ box	5	100
GE088	Keyless, shadeholder grooves; for 4″ box	5	100
	With Covers for Outlet Boxes		
GE2581	Keyless, for 3¼″ box	10	100
GE2583	Keyless, for 3¼″ box, wire leads	10	100
GE2582	Keyless, for 4″ box	5	100
GE2584	Keyless, for 4″ box, wire leads	5	100
	For Concealed Work		
GE294	Keyless, no shadeholder groove	10	100
GE295	Keyless, with shadeholder groove	10	100

*For complete listing refer to detail catalog on wiring devices.

*Flush Tumbler Switches and Plates



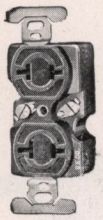
GE1688 GE2588 GE1755 GE2692 GE2316

Cat. No.	Description	Carton	Std. pkg.
	Switches		
GE1688	Single-pole flush tumbler switch, shallow porcelain box; 5 amp., 250 volts; 10 amp., 125 volts	10	100
GE2588	Single-pole flush tumbler switch, shallow compound box; 5 amp., 250 volts; 10 amp., 125 volts	10	100
GE1755	§Single-pole flush locking tumbler switch, shallow porcelain box; 5 amp., 250 volts; 10 amp., 125 volts	10	100
GE1690	Three-way flush tumbler switch, shallow porcelain box; 5 amp., 250 volts; 10 amp., 125 volts	10	50
GE1691	Four-way flush tumbler switch, shallow porcelain box; 2 amp., 250 volts; 5 amp., 125 volts	1	10
GE1689	Double-pole flush tumbler switch, shallow porcelain box; 10 amp., 250 volts	10	50
GE2756	Single-pole mercury tube flush tumbler switch; deep type Textolite box; uses Kon-nec-tor mercury tube with flexible leads to terminal plate; 5 amp., 250 volts; 10 amp., 125 volts	1	10
GE2692	Triple flush tumbler switch; shallow Textolite box, brown Textolite handle, 3 single-pole units, each unit 3 amp., 250 volts; 6 amp., 125 volts	1	10
	**** Plates**		
GE1834	Textolite for 1 switch; black finish	20	100
GE2316	Textolite for 1 switch; brown finish	20	100
GE1701	Struck-up brass; .040″ metal	20	100
GE2693	Brown Textolite, for triple flush tumbler switch	1	10
GE2727	.040″ brass plate for triple flush tumbler switch	1	10

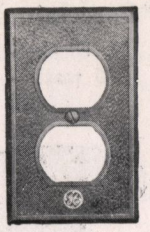
*A representative listing. For complete information write for catalog.
**Can be furnished for greater number of switches than listed. Write for catalog.
§Catalog number includes locking key.

(Continued on Next Page)

*Standard Convenience Outlets and Plates


GE694

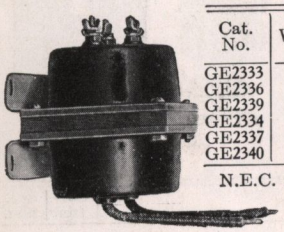

GE2678


GE2315

Cat. No.	Description	Carton	Std. pkg.
	Outlets		
GE2679	Twin; shallow; 1-piece; for plates without doors, brown Textolite; wide mounting ears; side wired; 10 amp., 250 volts; 15 amp., 125 volts	10	100
GE2678	Same as GE2679, except made of black Textolite	10	100
GE694	Twin; shallow; 1-piece; for plates without doors, black Textolite; wide mounting ears; top wired; 10 amp., 250 volts; 10 amp., 125 volts	10	100
GE2534	Same as GE694, except made of brown Textolite	10	100
GE2258	Twin; shallow; 1-piece for plates without doors, black Textolite; small mounting ears; side wired; 10 amp., 250 volts	10	100
GE2536	Same as GE2258, except made of brown Textolite	10	100
	§ Plates		
GE1831	Black Textolite; for 1 twin convenience outlet; no doors	10	50
GE2315	Same as GE1831, except made of brown Textolite	10	50
GE695	Struck-up brass; .040″ metal, no doors	10	50

§ Standard finish is brush brass.
* A representative listing. For complete information write for catalog.

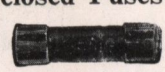
Heavy-duty Bell Ringers


GE 2333

Cat. No.	Watts	Cycles	Volts primary	Volts secondary	Carton	Std. pkg.
GE2333	50	50–140	110	8/16/24	1	10
GE2336	50	50–140	220	8/16/24	1	10
GE2339	50	25–49	110	7/13/20	1	10
GE2334	100	50–140	110	10/20/30	1	10
GE2337	100	50–140	110	10/20/30	1	10
GE2340	100	25–49	110	8/16/24	1	10

N.E.C. Standard, Schedule TS.

Enclosed Fuses




Cat. No. Non-indicating	Cat. No. Indicating	Amp. cap.	Carton	Std. pkg.	Cat. No. Non-indicating	Cat. No. Indicating	Amp. cap.	Carton	Std. pkg.
Ferrule Type Enclosed Fuses (1 to 60 amp., 250 volts)									
59950	.....	1	10	100	GE1466	34957	30	10	100
GE1454	34949	3	10	100	GE1467	34958	35	10	100
GE1457	59380	6	10	100	GE1468	34959	40	10	100
GE1461	34952	10	10	100	GE1469	34960	45	10	100
GE1463	34954	15	10	100	GE1470	34961	50	10	100
GE1464	34955	20	10	100	GE1472	34963	60	10	100
GE1465	34956	25	10	100	.....	.....	.....	.....	.....
Knife Blade Type Enclosed Fuses (70 to 600 amp., 250 volts)									
GE1474	.....	70	5	50	GE1490	34984	250	1	10
GE1476	34968	80	5	50	GE1492	34986	300	1	10
GE1477	.....	90	5	50	GE1494	34988	350	1	10
GE1478	34970	100	5	50	GE1496	34990	400	1	10
GE1479	.....	110	5	25	GE1498	.....	450	1	5
GE2628	.....	125	1	25	GE1500	36475	500	1	5
GE1483	34976	150	1	25	GE1504	36478	600	1	5
GE2629	.....	175	1	25	.....	.....	.....	.....	.....
GE1488	34981	200	1	25	.....	.....	.....	.....	.....
GE1489	34983	225	1	10	.....	.....	.....	.....	.....

N.E.C. Standard, Schedule F (Class 1). Approved by Underwriters' Laboratories under label service.

Renewable Enclosed Fuses, Complete with Links

Cat. No.	Amp. cap.	Carton	Std. pkg.	Cat. No.	Amp. cap.	Carton	Std. pkg.
Ferrule Type Renewable Enclosed Fuses (1 to 60 amp., 250 volts)							
GE1017	3	10	100	GE1027	30	10	100
GE1020	6	10	100	GE1029	35	10	100
GE1022	10	10	100	GE1030	40	10	100
GE1024	15	10	100	GE1031	45	10	100
GE1025	20	10	100	GE1032	50	10	100
GE1026	25	10	100	GE1034	60	10	100
Knife Blade Type Renewable Enclosed Fuses (70 to 600 amp., 250 volts)							
GE1037	70	5	50	GE1052	225	1	10
GE1039	80	5	50	GE1053	250	1	10
GE1041	90	5	50	GE1055	300	1	10
GE1043	100	5	50	GE1057	350	1	10
GE1045	110	1	25	GE1059	400	1	10
GE1047	125	1	25	GE1061	450	1	5
GE1048	150	1	25	GE1062	500	1	5
GE1049	175	1	25	GE1064	600	1	5
GE1050	200	1	25	.....	.....	.....	.....

N.E.C. Standard, Schedule F (Class 6).

Pyrex (Reg. U. S. Pat. Off.) Glass Top Fuse Plugs

Cat. No.	Description	Carton	Std. pkg.
Py10	With hexagonal window	50	500
Py15	With hexagonal window	50	500
Py20	With round window	50	500
Py25	With round window	50	500
Py30	With round window	50	500



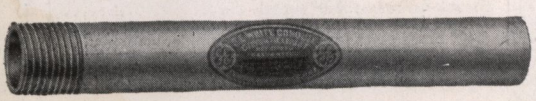
N.E.C. Standard, Schedule G (class 3).

CONDUIT AND FITTINGS

Rigid Conduit

G-E White (Greenfielduct)—A mild steel, hot dipped galvanized conduit for permanent installations. Thoroughly protected inside and outside against rust. Supplied in straight lengths and elbows cut and threaded, and with couplings accurately drilled and tapped.

G-E Black (Sprague duct)—Made from exactly the same high-grade steel, pickled, cleaned, straightened and threaded same as Greenfielduct except that it is protected by a coating of corrosion-resistant black instead of zinc.


"G-E White" Hot Dipped Galvanized Conduit

Galvanized Flexible Steel Conduit

Single-strip and double-strip types.

Extremely flexible; smooth interior surface for pulling conductors.

There is practically no waste when this conduit is used, as all short pieces can be clamped together by couplings.

Galvanized flexible steel conduit is manufactured in the following sizes:

Double strip—5/16 to 2 in.

Single strip—5/16 to 3 in.



Single-strip Conduit

"BX" Flexible Steel Armored Cable

BX Type ABC is manufactured in a variety of sizes, No. 14 and larger, 2 and 3-conductor.

Each coil is furnished with a quantity of "Anti-Short" bushings which furnish additional protection at the point where the armor is cut.

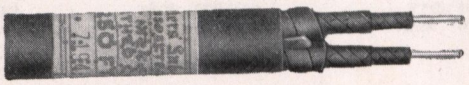
We also manufacture and carry in stock Type BXL for use in damp places. In the construction of BXL a continuous lead sheath is applied under the steel armor.



"BX" Type ABC Armored Cable

BraidX Non-metallic Sheathed Cable

BraidX is G-E code wire (2 or 3-wire and sizes No. 14 to 6) compactly enclosed in a fire-resisting, waterproof, non-metallic sheath of high insulating quality. BraidX should be installed in continuous runs from outlet to outlet, with no taps except at outlets. In no case is an insulating support required for BraidX.



Two-conductor BraidX

Fittings for Conduit, BX and BraidX

For use with the above we manufacture a complete line of fittings including locknuts and bushings, connectors, ground clamps, fixture studs, entrance fittings, etc. Illustrations of a number of these items are shown below. Complete listing and illustrations will be found in Merchandise Department Catalog, GEA-604A.



Bushing



Locknut



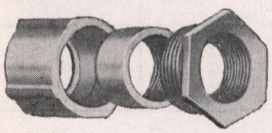
Entrance Cap



Capped Elbow



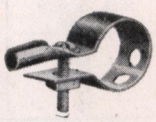
Entrance Ell



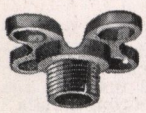
Erickson Coupling



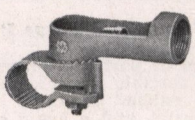
Pipe Strap



Grounding Clamp



Fixture Stud



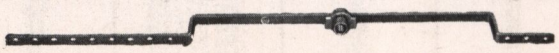
Grounding Device



Connector



Coupling



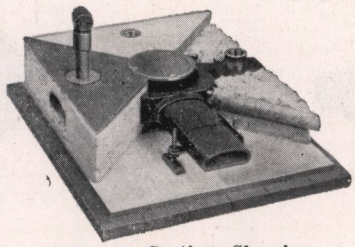
Bar Hanger

Fiberduct

G-E Fiberduct is a non-corrodible raceway for underfloor wiring in concrete floors.

The Fiberducts are laid in parallel lines under the surface of the floor area to be serviced.

Outlets may be established at any time, at any point along the line of duct. Allows flexibility of electrical system.

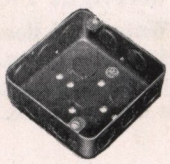


Cutaway Section Showing Installation of G-E Fiberduct

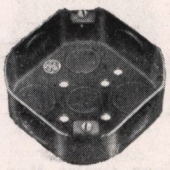
Outlet Boxes and Covers

A complete line for every wiring need.

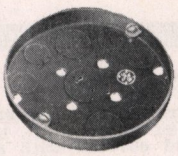
Made of standard gauge steel, black enameled or electro-galvanized. Knockouts are clean cut and readily removable. Securance ears are an integral part of the box. Screw-holes are machine tapped and accurately centered.



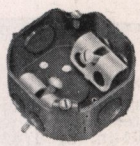
4-in. Square Outlet Box



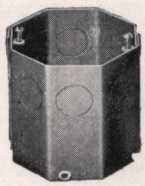
4-in. Octagon Outlet Box



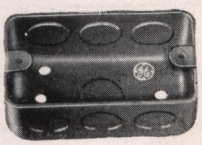
4-in. Round Outlet Box



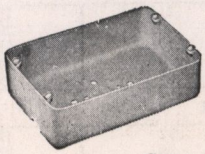
3¼-in. Octagon Outlet Box



Concrete Box



Utility Box



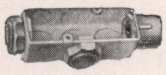


Gang Box and Cover

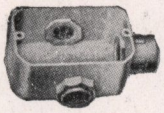
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Spraguelets (Conduit Bodies)

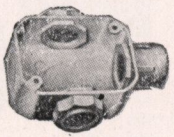
Three drawn steel electro-galvanized bodies (SP48241 Branch Spraguelet, SP14241 Shallow Spraguelet and SP34451 Deep Spraguelet) and two interchangeable couplings, together with a simplified line of covers, constitute the entire list of Spraguelet parts from which approved rigid conduit bodies can be readily made up for every purpose.



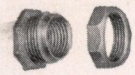
SP48241 Spraguelet Branch



SP14241 Shallow Spraguelet



SP34461 Deep Spraguelet



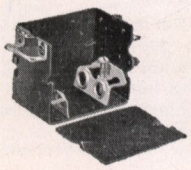
SP1410 ½-in. Coupling



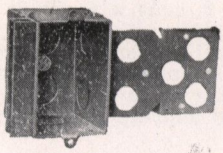
SP1420 ¾-in. Coupling

Sectional Switch Boxes

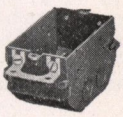
G-E sectional switch boxes are designed to accommodate any standard switch or receptacle, either singly or in gang as may be desired. The box itself consists of three members, a spacer and two sides, assembled by a special interlocking arrangement. This construction is exceptionally strong and rigid, yet easily and quickly taken apart when it is desired to add more spacers for gang installations. The G-E sectional switch box is made from standard gauge steel with integral lugs and is given a thorough coating of black enamel. Knockouts are cleanly cut. Securance ears are reversible, giving a wide range of adjustment and are attached by large, easily workable screws.



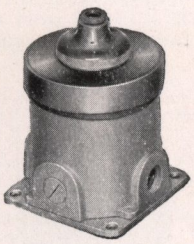
SP6972 For BX



SP7071 For Rigid Conduit



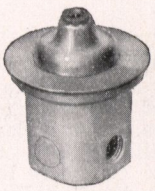
SP6974 For Loom



SP8400 Adjustable Floor Outlet Box

Watertight Floor Outlet Boxes

Watertight floor boxes are made in non-adjustable and adjustable types. The adjustable type automatically corrects any rough setting and brings the top flush with the finished floor.



SP8200 Non-adjustable Floor Outlet Box

N. E. C. LAMP CORDS AND PORTABLES FOR 600 VOLTS OR LESS



Fixture Cord

Consists of a single solid or stranded copper conductor (the latter covered with a winding of fine cotton), insulated with 1/64-in. or 1/32-in. rubber and covered with a cotton braid.

Single-Conductor Cord for Fixtures

Standard lamp cord strand, rubber insulated, finished with a single braid of glazed cotton or silk.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Ship. wt., lb. per 1000 ft.
14	3/64	.198	30
16	1/32	.149	17
18	1/32	.136	13
18	1/64	.105	11

Single-Conductor Wire for Fixtures—Weatherproof or White Finish

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Ship. wt., lb. per 1000 ft.
Solid			
16	1/64	.11	15
16	1/32	.14	20
18	1/64	.10	11
18	1/32	.13	16
20	1/64	.09	9
Stranded			
16	1/64	.12	17
16	1/32	.15	22
18	1/64	.11	13
18	1/32	.14	18



Twisted Lamp Cord (Type C)

For use as pendent cord in dry places. Consists of two extra flexible stranded copper conductors, each wound with cotton, rubber insulated and braided; the conductors are then twisted together.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Ship. wt., lb. per 1000 ft.
10	3/64	.498	120
12	3/64	.452	91
14	3/64	.412	69
16	1/32	.314	41
18	1/32	.286	32



Parallel Lamp Cord (Type PO)

For use as pendent cord or portable on small devices in dry places. Consists of two flexible stranded copper conductors, each wound with cotton, rubber insulated and braided; conductors are then laid parallel, and a braid of cotton or silk is applied over all.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Ship. wt., lb. per 1000 ft.
10	3/64	.528 by .279	122
12	3/64	.482 by .256	92
14	3/64	.442 by .236	71
16	1/32	.344 by .187	44
18	1/32	.316 by .173	35
18	1/64	.254 by .142	28



Special Portable Cord (Type PD)

For use in places where not liable to rough usage. Consists of two flexible stranded copper conductors, each wrapped with cotton, rubber insulated and cotton braided; conductors are then twisted together and a glazed cotton or silk braid is applied over all.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
10	3/64	.528	130
12	3/64	.482	98
14	3/64	.442	75
16	1/32	.344	45
18	1/32	.316	37



Reinforced Portable Cord—Type P (Glazed Cotton or Silk); Type P-Wp. (Cotton Weatherproofed)

Consists of a pair of stranded copper conductors, each covered with a winding of fine cotton, rubber insulation, and cotton braid, both twisted together. A reinforcement of rubber is placed over the twisted pair, and a cotton, silk or weatherproof braid over all. Sizes smaller than No. 18—not approved by Underwriters. Cotton and silk finish for use as pendent cord, or portable for hard usage in dry places; weatherproof finish for use in damp places. Sizes No. 18 with 1/64-in. insulation approved for use on portable lamps only.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
10	3/64	.570	210
12	3/64	.520	160
14	3/64	.480	125
16	1/32	.370	77
18	1/32	.340	63
18	1/64	.270	45



Type K Heavy Duty Cord

For use as a pendent or portable cord in damp places. Two stranded copper conductors each covered with a winding of cotton, rubber insulation and a weatherproofed cotton braid; conductors are then twisted together with jute fillers, finished with two weatherproofed braids overall. Sizes, 10 to 18 B. & S. gauge.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
10	3/64	.597	203
12	3/64	.551	155
14	3/64	.511	129
16	1/32	.413	82
18	1/32	.385	69



Deck Cable

For use in very damp places and where subject to very rough usage. Consists of two stranded copper conductors, each covered with a winding of cotton, rubber insulation and a cotton braid; conductors are then twisted, filled with jute, a jacket of 3/32-in. rubber compound is applied over all, and finished with a single weatherproofed cotton braid.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
10	3/64	.564	174
12	3/64	.524	139
14	3/64	.484	114
16	1/32	.419	92
18	1/32	.409	78



GE Flex Portable Cord, All-rubber Reinforced (Type S)

Regular cord is used. Each conductor is insulated with 30% rubber and over this is applied a heavy jacket using high percentage of pure rubber. This material is particularly recommended for hard service in dry or damp places, and is suitable for use in garages and industrial service in general.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
Two Conductor			
8	3/64	.750	326
10	3/64	.690	261
12	3/64	.620	200
14	3/64	.520	160
16	1/32	.445	103
18	1/32	.415	86
Three Conductor			
8	3/64	.770	405
10	3/64	.710	316
12	3/64	.640	239
14	3/64	.590	193
16	1/32	.460	124
18	1/32	.430	100
Four Conductor			
8	3/64	.825	572
10	3/64	.760	419
12	3/64	.681	310
14	3/64	.619	242
16	1/32	.494	149
18	1/32	.447	116



GE Flex Portable Cord, All-rubber Reinforced (Type SJ)—2-conductor

Same construction as Type S except that it has a lighter overall rubber jacket and is suitable for less severe service.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
16	1/32	.340	65
18	1/32	.305	54

Type SJ-JR—2-Conductor

Same construction as Type SJ except that the overall rubber jacket is lighter. This cord is suitable for use on floor lamps, adding machines, calculators and dictating machines.

16	1/32	.310	56
18	1/32	.275	43

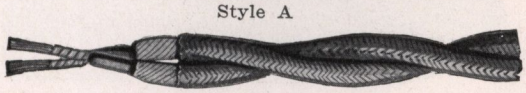
G-E Flex All-rubber Cord
G-E Flex Special—2-Conductor

A low priced all-rubber cord of the steam-cured type. Similar to SJ in construction. Suitable for use on cleaners, washing machines, floor polishers and similar devices where the service is not severe.

16	1/32	.320	58
18	1/32	.295	45



Style A



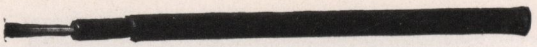
Style C

Type H. Heater Cord

Individual stranded conductors are extra flexible insulated with 1/64-in. rubber, a wrap of asbestos yarn; two such conductors are twisted together and a glazed cotton braid applied over both and designated as Style A—or two such conductors with a glazed cotton braid on each are twisted together and designated as Style C.

Size, B. & S. gauge	Diam. overall, in.	Shipp. wt., lb. per 1000 ft.	Diam. overall, in.	Shipp. wt., lb. per 1000 ft
	Style A		**Style C**	
18	.284	31	.314	42
17	.300	35	.330	36
16	.312	42	.342	43
14	.346	58	.376	60

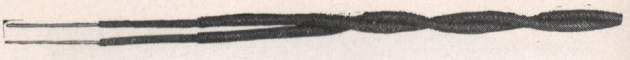
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Fixture Wire—Single Conductor

Solid			Stranded		
Size, B. & S. gauge	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.	Size, B. & S. gauge	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
1/64-in. Rubber—Light Insulation					
16	0.11	15	16	0.12	17
18	0.10	11	18	0.11	13
20	0.09	9	...	....	...
1/32-in. Rubber—Heavy Insulation					
16	0.14	20	16	0.15	22
18	0.13	16	18	0.14	18

Fixture wire smaller than No. 18 not approved by Underwriters.



Telephone Wire

Single solid conductors, tinned, rubber insulated, braided, 2 or 3 conductors twisted together. Glazed cotton finish for indoor use. Black weatherproof finish for outdoor use.

Glazed Cotton				Black Weatherproof		
Size, B. & S. gauge	Thickness, insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.	Thickness, insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
Two-Conductor						
19	.029	.248	22	.029	.254	26
18	.031	.266	24	.031	.272	29
16	....	....	..	.031	.294	37
14	....	....	..	.047	.376	60
Three-Conductor						
19	.029	.266	33	....	....	..
18	....	....	..	.031	.292	51
14	....	....	..	.047	.404	89

N. E. C. RUBBER-INSULATED WIRE AND CABLE FOR GENERAL LIGHT AND POWER SERVICE—600 VOLTS MAXIMUM

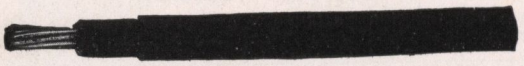
Insulated with Code, Intermediate or Thirty Per Cent grades of rubber compound, and finished with braid, or with tape and braid, or with lead sheath.

G. E. Code grade is guaranteed to more than meet the requirements of the Underwriters in tensile strength and insulation resistance.

G. E. Intermediate grade contains not less than 25% rubber and has tensile strength and insulation resistance higher than code grade.

G. E. Thirty Per Cent is the best commercial grade and contains not less than 30% new rubber. The general tests are higher than for intermediate.

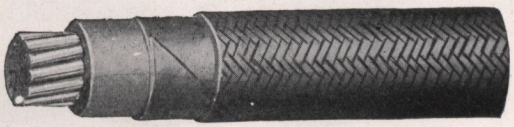
Upon request we will furnish test specifications for Intermediate and Thirty Per Cent compounds. This will enable the consumer to determine definitely that a grade better than code is being furnished. Where the consumer is unable to make these tests, we will furnish the facilities at Bridgeport where tests may be witnessed.



Rubber Insulated Wire—Braided—Single Conductor

Size	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.	Size	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
Solid				**Stranded**			
0000	5/64	0.71	1034	0000	5/64	0.78	1075
000	5/64	0.66	748	000	5/64	0.72	783
00	5/64	0.62	633	00	5/64	0.67	663
0	5/64	0.58	538	0	5/64	0.62	584
1	5/64	0.54	462	1	5/64	0.58	480
2	1/16	0.48	277	2	1/16	0.51	291
4	1/16	0.42	189	3	1/16	0.49	277
6	1/16	0.38	132	4	1/16	0.45	202
8	3/64	0.27	82	6	1/16	0.40	142
10	3/64	0.24	60	8	3/64	0.29	88
12	3/64	0.21	45	10	3/64	0.26	65
14	3/64	0.19	32	12	3/64	0.22	50
..	....	....	....	14	3/64	0.20	40

The code specifies a single braid on Nos. 14 to 8 inclusive and two braids, or a tape and a braid, on sizes No. 6 and larger. Sizes No. 6 and larger can be furnished with a single braid only but will not have the Underwriters' labels.



Rubber-Insulated Single-Conductor Circular Mil Cable—Braided—Stranded

Size	Thickness, insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.	Size	Thickness, insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
250,000	3/32	0.86	1130	750,000	7/64	1.33	3030
300,000	3/32	0.94	1318	800,000	7/64	1.36	3200
350,000	3/32	0.99	1480	850,000	7/64	1.43	3880
400,000	3/32	1.03	1740	900,000	7/64	1.44	4050
450,000	3/32	1.08	2030	950,000	7/64	1.46	4230
500,000	3/32	1.12	2130	1,000,000	7/64	1.49	4274
550,000	7/64	1.19	2420	1,250,000	1/8	1.68	5146
600,000	7/64	1.23	2515	1,500,000	1/8	1.78	6079
650,000	7/64	1.27	2774	1,750,000	1/8	1.92	7154
700,000	7/64	1.30	2860	2,000,000	1/8	2.00	7718

Identifying marker—red and black thread woven parallel in braid, or parallel under braid in some cases.



Rubber-Insulated Flat Twin Wire—Braided—Solid

Has a braid on each conductor and one braid over all. This is equivalent to double braid and is suitable for unlined conduit use.

Size, B. & S. gauge	Thickness insulation, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
8	3/64	0.33 x 0.57	178
10	3/64	0.30 x 0.52	126
12	3/64	0.28 x 0.46	94
14	3/64	0.26 x 0.42	73

Rubber-Insulated Wire and Cable—Lead Sheathed

Size	Thickness, insulation, in.	Thickness, lead, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
Single Conductor—Solid				
18	1/32	1/32	.20	150
16	1/32	1/32	.22	165
14	3/64	1/32	.26	190
12	3/64	1/32	.28	210
10	3/64	3/64	.33	300
8	3/64	3/64	.36	340
6	1/16	1/16	.46	560
4	1/16	1/16	.49	660
Single Conductor—Stranded				
8	3/64	3/64	.38	375
6	1/16	1/16	.48	590
4	1/16	1/16	.53	690
2	1/16	1/16	.60	835
1	5/64	1/16	.67	1080
0	5/64	1/16	.71	1200
00	5/64	1/16	.76	1340
000	5/64	1/16	.81	1500
0000	5/64	1/16	.87	1910
250,000	3/32	5/64	.99	2360
300,000	3/32	5/64	1.05	2600
400,000	3/32	5/64	1.15	3190
500,000	3/32	5/64	1.24	3560
600,000	7/64	3/32	1.38	4380
700,000	7/64	3/32	1.46	5000
750,000	7/64	3/32	1.49	5210
800,000	7/64	3/32	1.53	5430
900,000	7/64	3/32	1.61	5850
1,000,000	7/64	3/32	1.65	6250
1,250,000	1/8	7/64	1.85	7800
1,500,000	1/8	7/64	1.95	8980
1,750,000	1/8	7/64	2.09	10190
2,000,000	1/8	7/64	2.16	11170
.....	.....	.....	.....	.....

Size	Thickness, insulation, in.	Thickness, lead, in.	Approx. overall diam., in.	Shipp. wt., lb. per 1000 ft.
Two Conductor—Solid				
18	1/32	3/32	.32	210
16	1/32	3/32	.34	230
14	3/64	3/32	.46	295
12	3/64	3/32	.51	400
10	3/64	3/64	.57	485
8	3/64	3/64	.62	550
6	1/16	1/16	.76	900
Two Conductor—Stranded				
8	3/64	3/64	.66	600
6	1/16	1/16	.83	930
4	1/16	1/16	.93	1210
2	1/16	1/16	1.06	1480
1	5/64	5/64	1.24	2150
0	5/64	5/64	1.32	2410
2/0	3/64	5/64	1.42	2680
3/0	5/64	5/64	1.53	3000
4/0	5/64	5/64	1.64	3450
Three Conductor—Solid				
14	3/64	1/16	.58	530
12	3/64	1/16	.62	720
10	3/64	1/16	.63	860
8	3/64	1/16	.72	1000
6	1/16	1/16	.86	1500
Three Conductor—Stranded				
8	3/64	1/16	.76	1115
6	1/16	1/16	.95	1600
4	1/16	1/16	1.04	2150
2	1/16	5/64	1.18	2650
1	5/64	3/32	1.37	3430
0	5/64	3/32	1.46	4000
2/0	5/64	3/32	1.56	4450
3/0	5/64	3/32	1.68	5000
4/0	5/64	3/32	1.83	6100

GENERAL ELECTRIC COMPANY

Merchandise Department

BRIDGEPORT, CONN.

DELTABESTON WIRE PRODUCTS

Felted Asbestos Insulated Wires and Cords

Deltabeston wires and cords are suitable for service where wires are subjected to very high temperatures.

Deltabeston insulation consists of pure asbestos fiber applied in the fibrous state, resulting in a thoroughly felted wall completely surrounding the conductor, without the openings found where braided yarn is used. It is impregnated and completely filled with a special non-inflammable compound which increases the dielectric strength and makes the insulation cling tenaciously to the conductor. This insulation is fireproof—it will resist temperatures as high as the fusing temperature of the copper conductor, and further, it is so tough that it will not crack when the wire is sharply bent. Its use is an assurance against burnouts and other troubles.

All Deltabeston wires are approved by the Underwriters' Laboratories, Inc.

Deltabeston Magnet Wire

Unequalled for use in the manufacture and repair of coils for railway, mining and mill type motors and all other apparatus in which severe temperature rises occur.

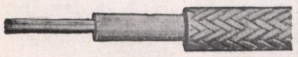
The asbestos insulation is applied in an adhesive, uniform, smooth mass of approximately the same wall thickness as double cotton covered magnet wire. It is finally treated with a special compound which renders it moistureproof and tough. Standard color of finish is black, but white can be supplied at same price where customer desires to apply own compounds to wire, after having been formed in coils. Conductor is of soft drawn copper of at least 98% conductivity, and each reel is rigidly tested for uniformity of diameter, elongation, tensile strength and conductivity.



Made in round, square and flat sections; round in sizes 25 to 3/0 B. & S. gauge; flat and square in sizes from 20 to 300 mils thick by 80 to 400 mils wide.

Deltabeston Stove Wire

Recommended for wiring electric stoves and ranges, in and around ovens, boiler rooms and similar places where excessive moisture is not present. It consists of a solid conductor insulated with a $\frac{1}{32}$-in. wall of Deltabeston insulation, over which is woven an asbestos braided covering. The compact and durable asbestos insulation adheres tenaciously to the conductor, yet it may be easily removed for making connections. It is remarkably resistant to abrasion and prevents short circuiting in service, a serious hazard encountered when cheaper, loosely braided asbestos covered wires are used.



Standard color of finish is white, but black can be supplied, if desired, at same price.

Made in sizes 18 to 4/0 B. & S. gauge.

Deltabeston Heater Cord

Used in connecting electric stoves, heaters, irons and other heating appliances where the cords are likely to be exposed to high temperatures.

Consists of two stranded twisted conductors (No. 30 B. & S. gauge), each conductor individually insulated with a $\frac{1}{32}$-in. wall of Deltabeston insulation. Made in the following types—Style A, with asbestos braid over all; Style C, with glazed cotton braid over all; Style D, with glazed cotton braid on each conductor; Style E, with glazed cotton braid on each conductor and glazed cotton braid over all. Any of these types can be furnished with braided instead of stranded wire, at additional cost. Made in sizes No. 18 to 12 B. & S. gauge.



Deltabeston Fixture Wire

Plain Fixture Wire—Consists of a single stranded or solid conductor insulated with a $\frac{1}{32}$-in. wall of Deltabeston insulation. Recommended for all classes of fixture wiring; especially suitable for fixtures in which temperatures liable to be attained by some parts are such as to render the use of rubber covered wires or cords either undesirable or impracticable. Smooth and flexible—may be fished through fixtures with utmost ease. Standard color of finish is black. Gray, cream, old brass or bronze finishes cost extra. Sizes, 18 to 10 B. & S. gauge.

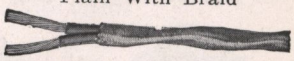
Cotton or Art Silk Covered Fixture Wire—Same as plain, black finish fixture wire described above with an additional outer covering of art silk or cotton. Especially suited for fixtures on which wiring is exposed to view. Small diameter; neat and attractive in appearance. Furnished in single and two conductors in the various forms illustrated. Sizes, 18 to 12 B. & S. gauge.



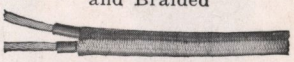
Single Conductor, Plain Without Braid



Single Conductor, Plain With Braid



Duplex Two Plain Conductors Twisted Together and Braided



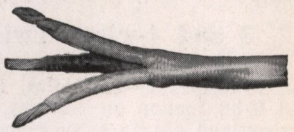
Parallel Two Plain Conductors Each Braided and Twisted Together



Twisted Pair Two Plain Conductors, Each Parallel and Twisted Together

Deltabeston Fixture Wire

Kitchen Unit Wire—Consists of three stranded twisted conductors, each conductor individually insulated with Deltabeston insulation, with an asbestos braid over all. Used with kitchen units equipped with convenience outlets for appliances controlled by a switch. Sizes, 18 to 14 B. & S. gauge.



Deltabeston Motion Picture Machine Cable

Widely used for wiring of searchlights, railway controllers, cranes, motion picture projectors and other devices in which wires are subjected to high temperatures. Flexible and extra flexible types. Consists of a stranded conductor insulated with a $\frac{1}{32}$-in. wall of Deltabeston insulation, and covered with an asbestos braid thoroughly saturated with a compound that produces a smooth, moistureproof finish. Sizes, 18 to 2/0 B. & S. gauge.



HARVEY HUBBELL, INC.

Manufacturers of Electrical Specialties

BRIDGEPORT, CONN.

Branch Offices

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CHICAGO, ILL. . . . . 318 W. Washington St.
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SAN FRANCISCO, CALIF. . Garnett Young & Co., 390 4th St.

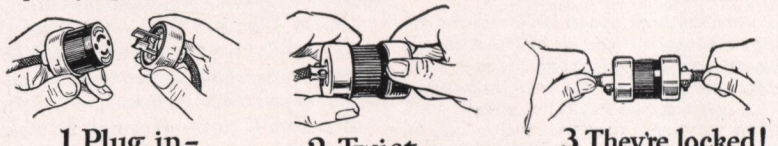
Hubbell "Twist-Lock" Devices

A new National Electric Code rule advises installation of polarized and grounded devices to protect the users of portable motor-driven tools and equipment.

Many industrial plants, equipping with 3 and 4-wire protective devices, are specifying "Twist-Lock" to end the work-interrupting disconnection nuisance which troubles users of portable equipment.

"Twist-Lock" Devices never part in the middle of a job; no matter how hard the cord is yanked about. A lock-fast connection is made by a twist of the cap.

A complete line of 2, 3 and 4-wire "Twist-Lock" Devices is shown here. These "Twist-Lock" devices constitute only a part of our line of electrical wiring material—for further information write to any of our offices listed above for our complete catalog.

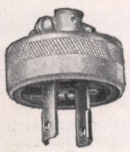


2, 3 and 4-wire "Twist-Lock" Caps

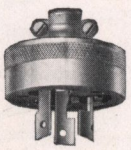
20 amperes—250 volts.

Composition. Caps are steel covered, cadmium plated.

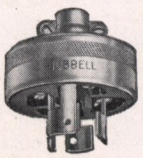
The blades of "Twist-Lock" Caps are curved to engage correspondingly shaped slots in the body. A twist to the right locks the blades in the contact springs, which can only be withdrawn by reversing the turn.



No. 7102 or No. 9102



No. 7311



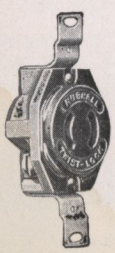
No. 7411

Cat. No.	Description	Cord hole size, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price each
7102	2-wire non-polarized	9/16	30	7	10	$0.80
*9102	2-wire polarized	9/16	30	7	10	.80
7238	2-wire non-polarized	5/8	30	7	10	.80
*9103	2-wire polarized	5/8	30	7	10	.80
7311	3-wire polarized	23/32	30	12	10	1.30
7411	4-wire polarized	23/32	20	12	10	1.80

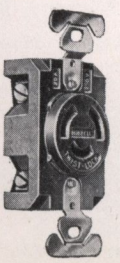
*Polarization of 2-wire "Twist-Lock" devices is accomplished by having one blade with a longer arc than the other; i.e., one blade is wide and the other narrow, engaging in corresponding slots in the receptacle or connector body.

2, 3 and 4-wire "Twist-Lock" Porcelain Flush Receptacles

20 amperes—250 volts. Supporting screw holes spaced 3 9/32 inches on centers. Nos. 7210 and 7310 will fit standard single convenience outlet plates but No. 7410 requires special single gang plate No. 7421.



No. 7210



No. 7310



No. 7410

Cat. No.	Description	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
#7210	2-wire flush receptacle	50	13	10	$0.80
7310	3-wire flush receptacle	30	15	10	1.90
7410	4-wire flush receptacle	20	16	10	2.70
5548	Single .060" brush brass plate for Nos. 7210 and 7310	100	26	10	.36
7421	Single .060" brush brass plate for No. 7410	20	7	10	.36

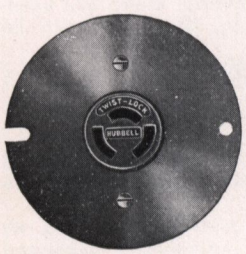
All 2-wire female "Twist-Lock" devices are furnished polarized; but may be used with male non-polarized devices to make up a non-polarized device.

2, 3 and 4-wire "Twist-Lock" Receptacles with Round Steel Box Covers Attached

20 amperes—250 volts. Porcelain. Side wired. Standard finish of covers is black japan. Cadmium finish covers may be had on special order at no advance in price.



No. 7217



No. 7517



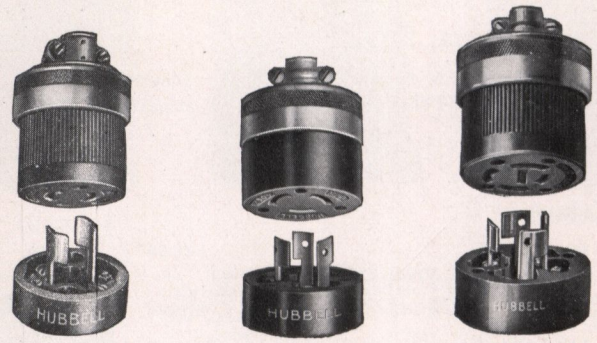
No. 7417

Cat. No.	Description	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
#7216	2-wire with 3¼" cover	50	27	5	$0.90
#7217	2-wire with 4" cover	30	18	5	1.00
7517	3-wire polarized with 4" cover	20	12	5	2.10
7417	4-wire polarized with 4" cover	15	10	5	2.90

#All 2-wire female "Twist-Lock" devices are furnished polarized; but may be used with male non-polarized devices to make up a non-polarized device.

Hubbell "Twist-Lock" Devices (Continued)

2, 3 and 4-wire "Twist-Lock" Surface Motor Plugs—20 amperes—250 volts



No. 7101 Body
No. 7191 Base

No. 7313 Body
No. 7318 Base

No. 7413 Body
No. 7415 Base

Cat. No.	Description	Cord hole size, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
#7101	2-wire; body only	9/16	30	12	10	$1.20
#7224	2-wire; body only	5/8	30	12	10	1.20
7313	3-wire polarized; body only	23/32	30	14	10	2.20
7413	4-wire polarized; body only	23/32	20	14	10	3.20

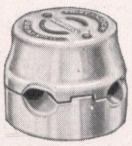
All 2-wire female "Twist-Lock" devices are furnished polarized; but may be used with male non-polarized devices to make up a non-polarized device.

Cat. No.	Description	Screw spacing, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
7191	2-wire; base only	1	30	6	10	$ .60
*9104	2-wire polarized; base only	1	30	6	10	.60
7318	3-wire polarized; base only	†	30	12	10	.80
7415	4-wire polarized; base only	1 7/8	20	10	10	1.00

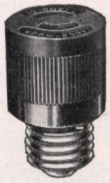
* Polarization of 2-wire "Twist-Lock" devices is accomplished by having one blade with a longer arc than the other; i.e., one blade is wide and the other narrow, engaging in corresponding slots in the receptacle or connector body.

† Furnished with 3 mounting screw holes spaced 114 degrees, 120 degrees and 126 degrees apart on ¾ in. radius.

2-wire "Twist-Lock" Porcelain Conduit Box Receptacles—20 amperes—250 Volts and 2-wire "Twist-Lock" Attachment Plug Bases—Medium Screw Type—660 Watts—250 Volts



No. 7624



No. 7612

Cat. No.	Description	Screw spacing, in.	Cord hole, size, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
*7624	Receptacle only	3½	.....	50	14	10	$0.80
#7612	Base only	.....	.....	100	30	10	1.00
7102	Non-polarized cap	.....	9/16	30	7	10	.80
*9102	Polarized cap	.....	9/16	30	7	10	.80
7238	Non-polarized cap	.....	5/8	30	7	10	.80
*9103	Polarized cap	.....	5/8	30	7	10	.80

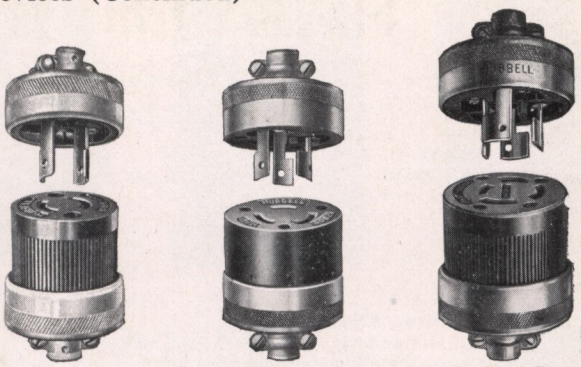
All 2-wire female "Twist-Lock" devices are furnished polarized; but may be used with male non-polarized devices to make up a non-polarized device.

*Polarization of 2-wire "Twist-Lock" devices is accomplished by having one blade with a longer arc than the other; i. e., one blade is wide and the other narrow, engaging in corresponding slots in the receptacle or connector body.

2, 3 and 4-wire "Twist-Lock" Cord Connectors with "Cord Grips"

20 amperes—250 volts. The blades of "Twist-Lock" Caps are curved to engage correspondingly shaped slots in the body. A twist to the right locks the blades in the contact springs, which can only be withdrawn by reversing the turn.

The composition body is strong—durable. The Caps are of heavy armored rust-resisting cadmium plated steel. The "Cord Grip" takes the strain off the binding screws—prevents the wire pulling loose.



No. 7102 Cap
No. 7101 Body

No. 7311 Cap
No. 7313 Body

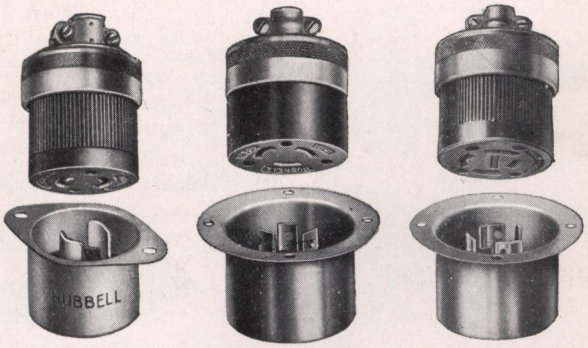
No. 7411 Cap
No. 7413 Body

Cat. No.	Description	Cord hole size, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
7102	2-wire non-polarized cap	9/16	30	7	10	$0.80
*9102	2-wire polarized cap	9/16	30	7	10	.80
7238	2-wire non-polarized cap	5/8	30	7	10	.80
*9103	2-wire polarized cap	5/8	30	7	10	.80
7311	3-wire polarized cap	23/32	30	12	10	1.30
7411	4-wire polarized cap	23/32	20	12	10	1.80
#7101	2-wire body only	9/16	30	12	10	1.20
#7224	2-wire body only	5/8	30	12	10	1.20
7313	3-wire polarized; body only	23/32	30	14	10	2.20
7413	4-wire polarized; body only	23/32	20	14	10	3.20

* Polarization of 2-wire "Twist-Lock" devices is accomplished by having one blade with a longer arc than the other; i.e., one blade is wide and the other narrow, engaging in corresponding slots in the receptacle or connector body.

All 2-wire female "Twist-Lock" devices are furnished polarized but may be used with male non-polarized devices to make up a non-polarized device.

2, 3 and 4-wire "Twist-Lock" Flush Motor Plugs—20 amperes—250 volts



No. 7101 Body
No. 8808 Base

No. 7313 Body
No. 7327 Base

No. 7413 Body
No. 7408 Base

Cat. No.	Description	Cord hole size, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
#7101	2-wire body only	9/16	30	12	10	$1.20
#7224	2-wire polarized; body only	5/8	30	12	10	1.20
7313	3-wire polarized; body only	23/32	30	14	10	2.20
7413	4-wire polarized; body only	23/32	20	14	10	3.20

All 2-wire female "Twist-Lock" devices are furnished polarized; but may be used with male non-polarized devices to make up a non-polarized device.

Cat. No.	Description	Screw hole spacing, in.	Standard pkg. Quan.	Standard pkg. Wt., lb.	Carton	Price, each
8808	2-wire base only	2 1/16	30	8	10	$1.00
*9105	2-wire polarized; base only	2 1/16	30	8	10	1.00
7327	3-wire polarized; base only	†	30	16	10	1.40
7408	4-wire polarized; base only	§	20	9	10	1.80

* Polarization of 2-wire "Twist-Lock" devices is accomplished by having one blade with a longer arc than the other; i.e., one blade is wide and the other narrow, engaging in corresponding slots in the receptacle or connector body.

† Screw holes spaced 120 degrees on 1¼ in. radius.

§ Screw holes spaced 2 23/32 in. on centers diametrically and 90 degrees apart.

STRUTHERS DUNN, INC.

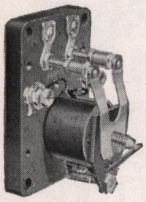
Manufacturers of "Dunco" Products

137 Juniper Street, Philadelphia, Pa.

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DETROIT · CLEVELAND · PITTSBURGH · BOSTON
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TRADE MARK

"Dunco" Relays



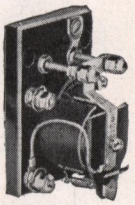
ABYS-8

Type ABYS-8 ..... **$6.00**

Contacts close when coil is energized.
General Control—Signals, small motors, heaters, etc.
Contacts — Non-inductive rating, double break.
110 volts A.C.—30 amps.; D.C.—6 amps.
220 volts A.C.—20 amps.; D.C.—3 amps.
Coil—7 watts (approx.) continuous duty.
A.C.—12 to 220 volts; D.C.—4 to 115 volts.
Mounting—Vertical, front connected.
Base—4¼ x 3 in.

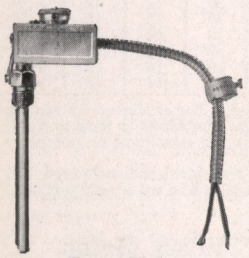
Type BSBS-8 ..... **$6.00**

Contacts open when coil is energized.
Signal Control—Light duty, closed circuit.
Contacts — Non-inductive rating, single break.
110 volts, A.C.—10 amps.; D.C.—2 amps.
220 volts, A.C.—8 amps.; D.C.—1 amp.
Coil—7 watts (approx.) continuous duty.
A.C.—12 to 220 volts; D.C.—4 to 115 volts.
Mounting—Vertical, front connected.
Base—4¼ x 3 in.



BSBS-8

Immersion Thermostats



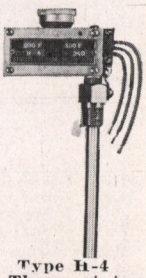
Type H-2 Thermostat

Type H-2 ..... **$7.00**

Two-wire, adjustable over range of 100° F. (specify range desired).
Controls any temperature up to 400° F. with a plus or minus accuracy of 2° F. Excellent for controlling the heating of water, waxes, oils, etc. Will handle up to 5 amps. A.C. non-inductive load without the use of relay.
Length of rod—6¼ in.
Well—⅜ in. O.D., fitted with plug having ⅜ in. pipe thread.

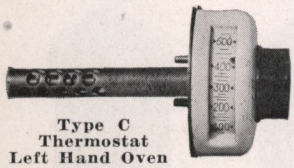
Type H-4 ..... **$7.50**

Three-wire, adjustable over a range of 100° F. (specify range desired).
Controls any temperature up to 400° F. with a plus or minus accuracy of 5° F. Excellent for controlling the heating of water, waxes, oils, etc. Will handle up to 30 amps. A.C. non-inductive load in conjunction with Dunco relay.
Length of rod—6¼ in.
Well—⅜ in. O.D., fitted with plug having ⅜ in. pipe thread.



Type H-4 Thermostat

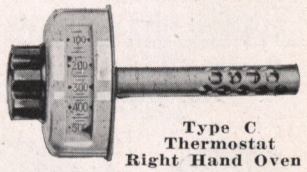
Oven Thermostats



Type C Thermostat Left Hand Oven

Type C Oven Thermostat **$7.50**

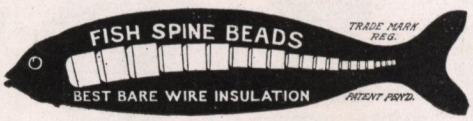
Three-wire; indicating and controlling.
Indicates up to 600° F.
One pointer is set at temperature required, the other moves with rise and fall of heat, giving readings always accurate within 10° F.
Will handle up to 30 amps. A.C. non-inductive load in conjunction with Dunco relay.



Type C Thermostat Right Hand Oven

Fish Spine Beads—Best Bare Wire Insulation

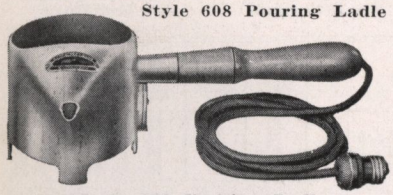
These porcelain insulators are made with a ball and socket joint, the ends fitting into one another so that a bend does not expose the wire, and for this reason are particularly adaptable for curved wires. Fish Spine Beads are very effective for heating apparatus leads, pyrometers, etc., because they will stand 3000° F. without change. Noted for their high mechanical and dielectric strength. Not affected by moisture, oil or high heat. The tapered hole makes them easy to string. There are ten standard sizes, accommodating No. 6 to No. 20 gauge wires. Free samples sent on request.



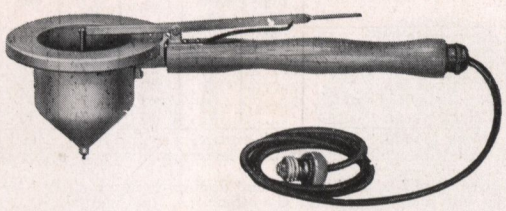
Electric Ladles and Pots

Style 608 Pouring Ladle **$18.00**

Aluminum ladle with long lip for pouring.
Equipped with wooden handle, cord and attachment plug.
Will hold 1½ pts. of compound.
Single heat, as specified.
500 watts at 110 volts.



Style 608 Pouring Ladle



Style 625 Funnel Ladle **$18.00**

Bottom-pouring type for filling small holes; slight pressure of thumb releases required amount of melted material. 1 quart capacity; single heat; 330 watts at 110 volts.

Style 511 Solder Pot **$18.00**

A pot of exceptional efficiency and rapidity. Will hold approximately 15 lb. solder. A 3-heat switch is connected to pot by a flexible metallic lead which provides for quick heating with 500 watts at 110 volts. The inside cast iron pot is well insulated from the outer metal shell to cut heat losses down to a minimum.



Style 511 Pot

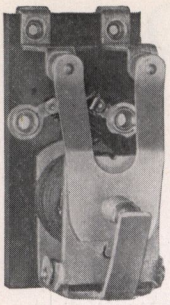
Style 520 Wax Pot

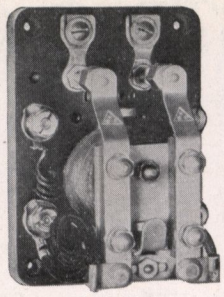
For melting waxes, battery compounds, etc. It has a specially heated outlet so that contents can be drawn off freely without removing lid, thus eliminating dirt and fire risk. 660 watts at 110 or 220 volts; three-heat switch. Various sizes ranging from 8 to 40 quarts capacity.

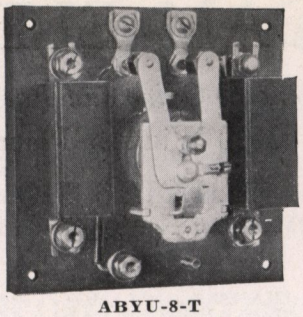
8 qt. ..... **$ 65.00**
40 qt. **125.00**

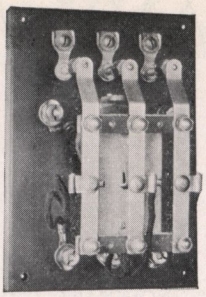


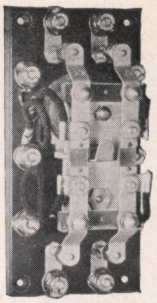
Style 520 Pot

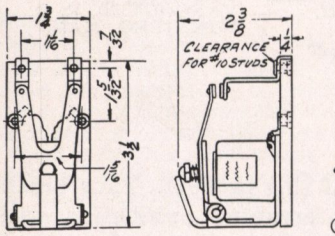

ABYB-2-R


ADBT-8


ABYU-8-T


ATBJ-8


DDBP-8



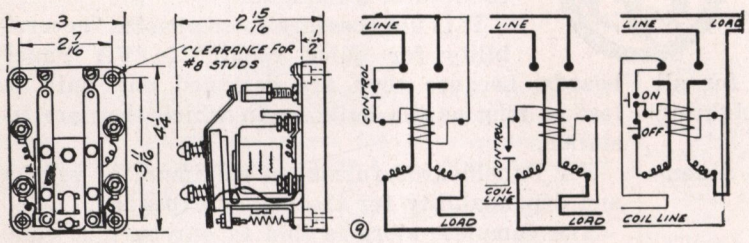
Type ABYB-2-R **$5.00**

Traffic control—Visible and audible signal.

Contacts—Non-inductive rating, double break.

110 volts, A.C.—25 amps.; D.C.—5 amps.
220 volts, A.C.—20 amps.; D.C.—3 amps.
Coil—6 watts (approx.) continuous duty.
A.C.—12 to 220 volts; D.C.—4 to 115 volts.

Mounting—Eyelet mounting permits completion of all panel wiring to studs before installing relay.



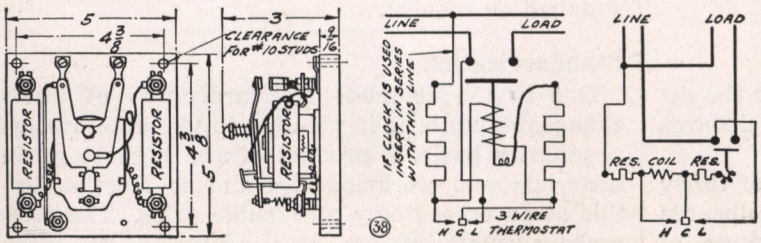
Type ADBT-8 ..... **$8.00**

General control—Signals, small motors, heaters, etc.

Contacts—Non-inductive rating, single break.

110 volts, A.C.—20 amps.; D.C.—4 amps.
220 volts, A.C.—15 amps.; D.C.—2 amps.
Coil—7 watts (approx.) continuous duty.
A.C.—12 to 220 volts; D.C.—4 to 115 volts.

Mounting—Vertical, front connected.



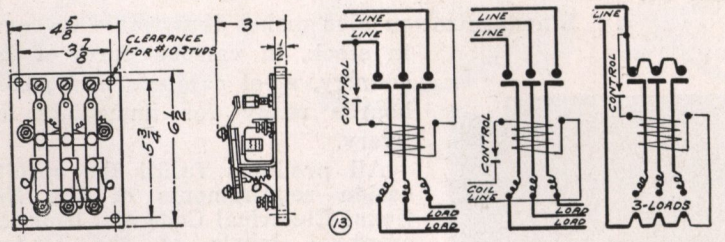
Type ABYU-8-T **$10.00**

Instrument control—Thermostats, meters, regulators, etc.

Contacts—Non-inductive rating, double break.

110 volts, A.C.—30 amps.; D.C.—6 amps.
220 volts, A.C.—20 amps.; D.C.—3 amps.
Coil—7 watts (approx.) continuous duty.
A.C.—110 to 220 volts; D.C.—115 volts.

Mounting—Vertical, front connected.



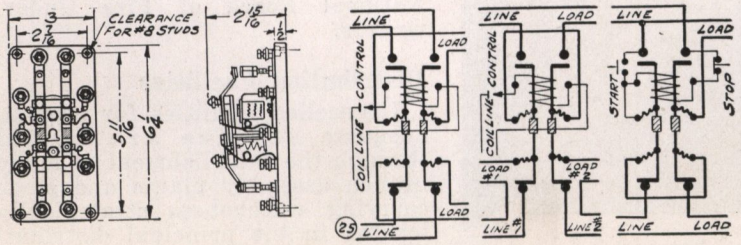
Type ATBJ-8 ..... **$10.00**

General Control—3 circuits.

Contacts—Non-inductive rating, single break.

110 volts, A.C.—20 amps.; D.C.—4 amps.
220 volts, A.C.—15 amps.; D.C.—2 amps.
Coil—7 watts (approx.) continuous duty.
A.C.—12 to 220 volts; D.C.—4 to 115 volts.

Mounting—Vertical, front connected.



Type DDBP-8 ..... **$14.00**

General Control—Special Applications. See diagrams.

Contacts—Non-inductive rating, single break. 4 separate circuits.

110 volts, A.C.—20 amps.; D.C.—4 amps.
220 volts, A.C.—15 amps.; D.C.—2 amps.
Coil—7 watts (approx.) continuous duty
A.C.—12 to 220 volts; D.C.—4 to 115 volts

Mounting—Vertical, front connected.

Write for new Dunco Relay Catalog

FRANK ADAM ELECTRIC CO.

General Office and Factory
3650 Windsor Place
ST. LOUIS, MO.
(Mail Address, P. O. Drawer 22)

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Branch Factories are located at points marked †

Products

Distribution Panelboards and Cabinets: Dead Face (Safety Type); Live Face.

Meter Control Panelboards and Cabinets.

Switchboards for light and power: Manually Operated, Dead and Live Face for all types of buildings; FA Major System of Lighting Control for theaters and auditoriums.

Hanger Outlets: for fan, heater, picture illumination, etc.

Adjustable Floor Boxes.

Also Switches: Knife; Safety Type Brush; Flush Range.

Experience

Frank Adam Electric Co. are pioneers in the design and manufacture of standardized panelboards and panelboard cabinets.

Continuous specialization over a period of thirty years in the design and manufacture of panelboards and switchboards, *exclusively*, gives assurance of wide experience resulting in a product that for years has been the standard of comparison.

The Company's long established financial responsibility and integrity, coupled with the recognized high standard of quality of the product and its comprehensive adaptability, is a guaranty sufficient to justify unqualified endorsement.

Construction

The idea of safety has always been predominant in the design of FA Panelboards. Next in importance is uninterrupted service to the user.

A minimum number of simple, yet sturdy and substantial parts, securely riveted wherever possible, are features of this product. Thus breakdowns and interrupted production with the consequent maintenance expense are reduced to a minimum.

It is unnecessary to emphasize "accessibility for quick repair" in FA Panelboards, because they are designed and built to last as long as the building in which they are installed.

FA Panelboards furnish a maximum of service and dependability for the money expended.

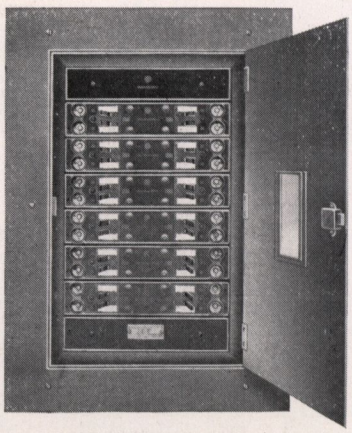
The complete story is told in our current catalog and supplementary literature. Copies will be supplied on request.

Standardization

Due to the complete standardization of interchangeable units it is possible to manufacture, on a quantity basis, a product of the highest grade materials and workmanship, and to merchandise this at an exceedingly reasonable price. The comprehensiveness of the line adapts it to every need.

Standardization also makes it possible to carry in stock, in various parts of the country, steel cabinets and panelboards ready for immediate delivery.

All products fulfill the specification requirements of the National Electrical Code and bear the approval labels of the Underwriters' Laboratories, Inc., of the National Board of Fire Underwriters.



Type NTP3L Panelboard

Distribution Facilities

Unexcelled facilities for prompt, adequate service are assured through the establishment of many branch assembly plants and stock carrying warehouses strategically located in the principal distributing centers of the country.

Engineering Products Corporation

56 Amherst Street, Cambridge, Massachusetts

Western Representative

L. G. Cushing Co., 9 South Clinton St., Chicago

MERCUFLO SWITCHES

Design

Mercuflo switches consist of glass tubes having sealed-in electrodes and containing a quantity of mercury which opens and closes the electrical circuit when switch is tilted through a small angle. An inert gas, with which the switches are filled, quenches the arc and prevents oxidation. Contacts are of pure molybdenum, which is not affected by the mercury or the arc. *Decomposition or chemical action is eliminated—contact resistance and operating characteristics remain constant and permanent.*

In switches rated at 10 amperes and under, contact is made and broken between the mercury and the electrodes. For heavy-duty service (15 amperes and over) the switches are designed to give a mercury-to-mercury make and break.

Every switch is operated at least 200 times at rated current and is thoroughly inspected before it leaves the factory.

Some of the Places Where Mercuflo Switches Are Used

Clock Switches
Electrical Appliances
Float Controls
Instruments
Movie Projectors
Oil Burners
Oil Pumps
Pressure Controls
Refrigeration
Relays
Signal Systems
Sign Flashers
Temperature Controls
Traffic Signals
Vending Machines
Weighing Machines

Advantages

Simplicity—Operates by a simple tilting motion which can be obtained from operating mechanisms such as temperature controls, solenoids, float controls, clocks, cams, manually operated devices, etc.

Only a slight amount of energy needed—just enough to cause the mercury to flow from one end of switch to the other. No moving parts to get out of adjustment—no contact surfaces to be forced together.

Safety—Arc and all live parts of switch are entirely enclosed, thus providing exceptional safety in locations subject to fire hazard or destructive vapors.

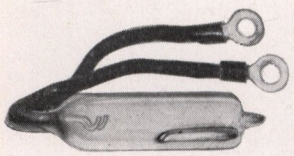
Reliability—The increasing use of Mercuflo Switches where failure of the switch might result in serious damage is convincing proof of their reliability.

Long Life—Oxidation, pitting of contacts and decomposition have been entirely eliminated in Mercuflo Switches. Expense and inconvenience of frequent inspection and maintenance is thereby avoided.

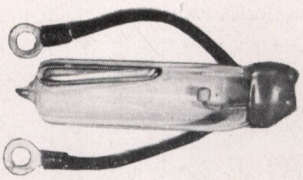
Our engineers will assist in the choice of switches if supplied with complete operating characteristics of the control devices. Special Mercuflo Switches are made for circuits above 250 volts and for different current ratings.

Mercuflo Switches are guaranteed against defects in workmanship and materials for a period of one year from date of shipment.

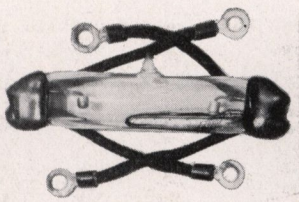
Write for complete descriptive bulletin.



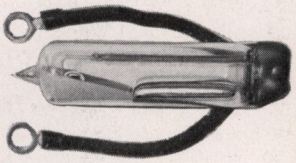
Type A



Type H



Type S



Type K

MERCUFLO SWITCHES

Type	Cat. No.	§ Ratings Amps., resist. load 125 volts	250 volts	Hp.	Dimen., in. Diam.	Lgth.	Pole	Throw	† Operating angle, degrees	‡ List price
A	A2	2	1	1/20	7/16	1¾	Single	Single	3– 4	$2.50
A	A6	6	3	¼	½	2⅛	Single	Single	2– 3	2.80
H	H10	10	5	½	5/8	2½	Single	Single	4– 6	3.20
K*	K15	15	10	1	5/8	2½	Single	Single	3– 5	3.40
K*	K25	25	15	2	5/8	2½	Single	Single	3– 5	3.40
S	S10	10	5	½	5/8	3	Single	Double	8–10	4.60
Y	I6	6	3	¼	½	2⅞	Single	Double	2– 3	4.20

Flexible Leads—Unless otherwise specified, 6-inch flexible leads equipped with terminals are furnished with each switch. Leads of different length or position can be furnished according to individual requirements. Bare wire or extra-flexible silk covered wire can also be supplied. Standard terminals are for No. 8, No. 10 and 3/16-in. screws. Specify terminal sizes and length and position of leads when ordering.

Mounting Clips—Furnished only when ordered. Two styles available—No. 2 clip is best for Type A switches and No. 1 clip for all other types.

* Mercury-to-mercury make and break.

§ Current ratings given are for resistance loads on either A.C. or D.C. With inductive loads these ratings should be somewhat reduced, particularly on D.C. and 25-cycle A.C. circuits. Motor loads are for 60-cycle A.C. repulsion induction. On D.C. the horsepower ratings are approximately one-half of the values shown in the table.

† Operating angles given are minimum values recommended for best operation. Requirements for special tilting angles can usually be met with little difficulty.

‡ List prices shown are subject to substantial discounts in quantities. Complete specifications and quantities to be purchased should accompany requests for net prices.

I-T-E CIRCUIT BREAKER COMPANY

Circuit Breaker and U-Re-Lite Engineers and Manufacturers

19th and Hamilton Streets.
PHILADELPHIA, PA.

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Since 1888 this company has specialized on the design and manufacture of circuit breakers of the highest quality.

After forty-two years of successful circuit breaker manufacture, the I-T-E management is unchanged, but it is constantly introducing refinements to perfect the quality of its product.

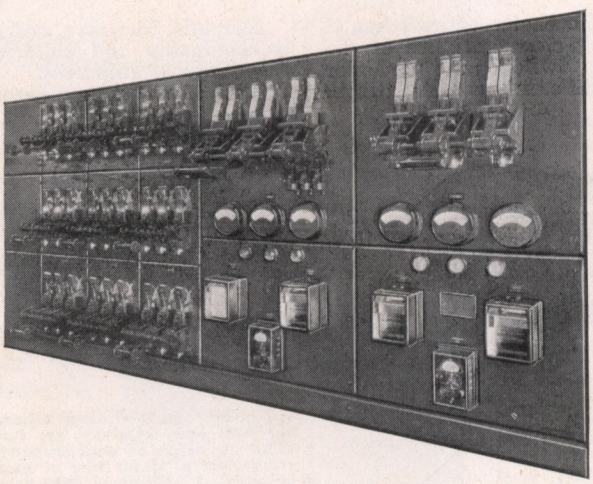
Conscientious design, utilization of proper materials and the skillful craftsmanship of men who have been with us from 10 to 35 years, assure the purchaser of protective equipment that will capably serve him year after year with minimum maintenance.

Guarantee

The I-T-E guarantee is a policy of which we are proud and a real protection to you.

Back of the formal guarantee of workmanship and material for one year is an unwritten, but carefully observed rule that no I-T-E circuit breaker or U-Re-Lite shall ever be allowed to give you less service than it was designed for and for which you have purchased it.

Given the proper maintenance, I-T-E protective equipment will serve you faithfully for many years. Hardly a day passes but an order for spare parts brings evidence that I-T-E circuit breakers, produced from twenty to thirty years ago, are still in service.



Switchboard designers and builders, recognizing the inherent advantages of I-T-E design and operation, use I-T-E circuit breakers as standard equipment in their product because they know from long experience that I-T-E is the most efficient and positive protection possible to obtain, that experienced users of electricity specify and insist on I-T-E, and furthermore, that I-T-E lends prestige to and enhances the value of their product as no other one item could. They also recognize that I-T-E- circuit breakers afford more positive and economical overload and short circuit protection (without attendant expense) than fused knife switches for circuits from 5 to 200 amperes, or oil switches for all circuits of 550 volts A.C. and under.

Deliveries

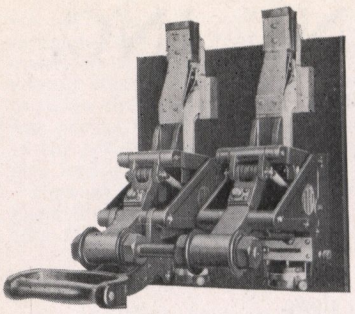
We are usually able to make quicker deliveries on standard or special circuit breakers than our competitors. Because of the thousands of sizes and varieties of circuit breakers, it is not feasible to stock completed breakers, but we maintain a 60-ton stock of finished parts from which standard or special circuit breakers can be assembled and completed in minimum time.

Factors of Safety

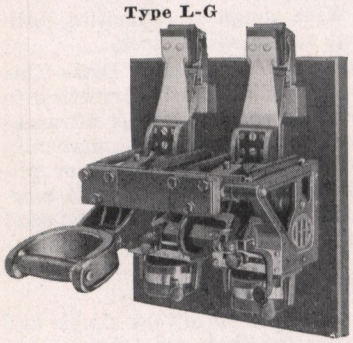
All I-T-E protective equipment has wide factors of safety designed and built into it.

As I-T-E ratings are exact and ample, engineers do not have to specify oversize I-T-E equipment. I-T-E circuit breakers and U-Re-Lites are designed to function under actual service conditions, not just to pass laboratory tests.

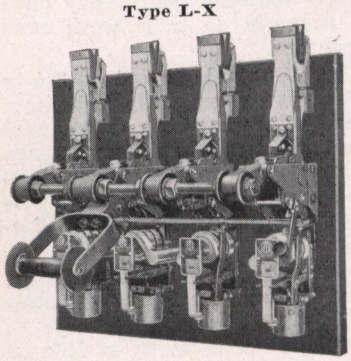
You Can Break It Better in Air and Best of All With I-T-E



Type L-G



Type L-X



Type W

I-T-E Circuit Breakers and U-Re-Lites

I-T-E circuit breakers and U-Re-Lites are made in various standard types that meet practically every requirement for the protection of electrical and associated apparatus—we also build special breakers to meet extraordinary requirements. Among the standard types are those listed in the following table:

I-T-E Circuit Breakers 1, 2, 3 or 4 poles 750 volts or less, A.C. or D.C.		U-Re-Lites (2 Poles) Auto U-Re-Lites (3 Poles) 250 volts D.C. 550 volts A.C.	
Ampere rating	Type	Ampere rating	Type
10000–1600	LG	1600	LL
1600– 200	LL	1250–200	LX
1250– 200	LX	400– 5	W
400– 5	W	200– 5	Senior
200– 5	S	80– ½	Junior
80– ½	J	.....	.....

I-T-E Protective Features—The following forms are available, *either singly or in combination*—

Overload Coil—Instantaneous direct-acting and mechanically interlocked with the breaker. Responds instantly to current in excess of the value at which it is set to operate.

Dalite (Direct-acting Time Delay)—Responsive to overloads only after the latter have been maintained for a predetermined time period.

Autoite (Trip-free)—Non-closable on overload, reverse current, no-voltage or shunt trip.

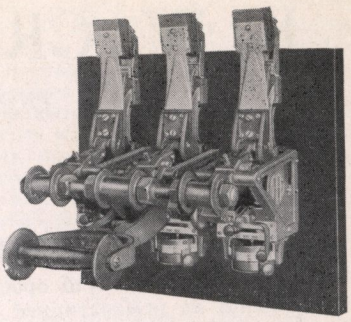
No-voltage—For automatically opening a breaker should voltage fall unduly below normal. Available in instantaneous or time delay forms.

Shunt Trip—For automatically opening a breaker independently of load conditions.

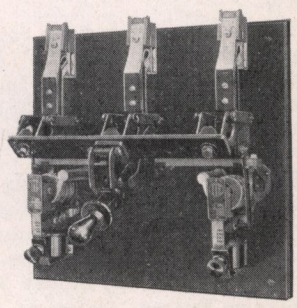
Reversite (Reverse Current)—For automatically opening a circuit in the event of the flow of current being abnormal in direction, a condition which unless interrupted, would result in misapplication of energy.

Bell Ringer—A device for ringing a bell, actuating an annunciator trip or lighting a lamp to indicate that a breaker has opened.

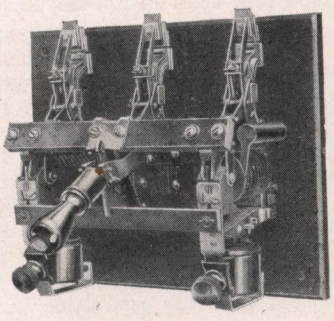
Methods of Operation—I-T-E circuit breakers may be manually operated, or furnished for remote operation by solenoid, electric motor or pneumatic cylinder.



Type L-L

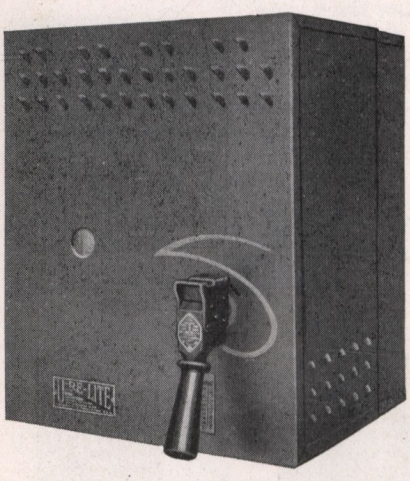


Type S



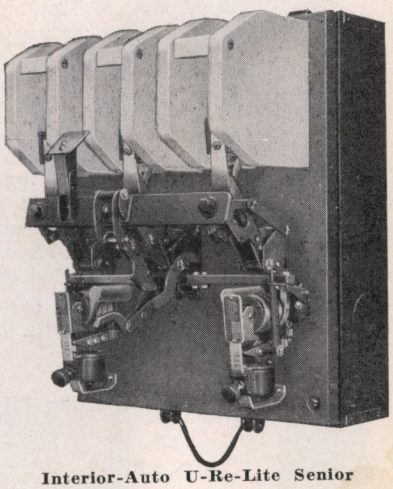
Type J

U-Re-Lites—Steel Enclosed Circuit Breakers



Auto U-Re-Lite Senior

U-Re-Lites, from a mechanical standpoint, are 2-pole and 3-pole I-T-E circuit breakers enclosed in an insulated steel box upon the front of which is mounted a handle for closing the breaker and for tripping it by hand. When an overload occurs, the U-Re-Lite automatically trips open—you restore service by merely turning the handle projecting from the front of the box—without stoppage of production, without danger to the operator, and without attendant expense as in the case of fuses—*and the U-Re-Lite will do this continuously with unimpaired effectiveness.* U-Re-Lites may be readily adjusted to open at any predetermined current throughout a wide range, as indicated on an accurately calibrated scale—the adjustment is constant and invariable, and can only be made with the box removed from the U-Re-Lite and is not subject to unauthorized changes when the box has been replaced and locked.



Interior-Auto U-Re-Lite Senior

Complete Catalog

The complete catalog of I-T-E circuit breakers is included in Electrical Engineering Catalogs, which are on file with officials in central stations, large electrified industrial plants, etc., who are responsible for the specification, requisition or purchase of materials and equipment used in the generation, transmission and utilization of electrical current.

An individually bound copy of the complete I-T-E catalog will be sent on request.

R. W. CRAMER & COMPANY, INC.

Distributors of SAUTER Time Controlled Devices

136 Liberty Street
NEW YORK, N. Y.

SAUTER Electric Time Switches and SAUTER Electric Timers

Function—To close and open electric circuits at predetermined hours and to do this with utmost dependability.

Uses—Automatic time control of: Streetlights, Floodlights, Windowlights, Signs, Airway and Lighthouse Beacons, Motors, Heaters, 2-Rate Meters and Flat Rate Electric Service, are the major uses for Sauter Time Switches.

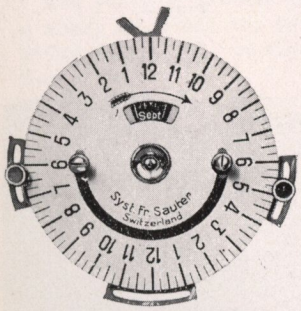
Users—Governments, Municipalities, Electric Public Utilities, Railroads, Architects, Electrical Contractors, Outdoor Advertising Operators, Building and Store Owners, and Manufacturers are the principal groups who specify and use Sauter Time Switches.

Service Record—In practically every civilized country, wherever the job at hand is such that quality is more important than cheapness, *Sauter* is *standard equipment* —and has been so for many years.

Output—Has increased *every* year for over 20 consecutive years. More workers are engaged in making Sauter Time Switches than any other make. By all standards the *Sauter* is the world's leading time switch; due to its inherent economy in use, backed by its unmatched *Service Record.*

Underwriters' Approval—Sauter Time Switches are approved by the National Board of Fire Underwriters.

Guarantee—More than the usual guarantee covering materials and workmanship: **"Every Sauter time switch is sold with the guarantee that it will perform to the entire and continued satisfaction of its user."**



Sauter Astronomic Dial, ½ Size
This gives an approximate idea of the comparative dimensions of the various switches shown here.

Characteristics—In the interest of maximum accuracy and reliability Sauter time switches have a spring-driven, jewelled clock movement, which is *not* influenced by fluctuations in temperature, or voltage, or frequency. To meet a wide range of conditions the Sauter Standardized Line of Time Switches consists of:

(a) Small capacities, with 7-jewel *14-day* clock.

(b) Small capacities, with 13-jewel *40-day* clock.

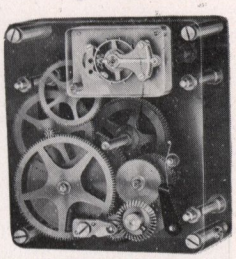
(c) Wide range of capacities, with 13-jewel *self-winding* clock.

Sauter Astronomic Dial—This "solar time" dial is self-correcting to dusk and dawn. Its use is advantageous wherever a time switch is used to automatically maintain a *lighting* schedule, either part-night or all-night. The Sauter design of this mechanism is so complete and the dial is so adjustable that it meets the need of any locality. Thus the switching operations are automatically timed to parallel, by any desired number of minutes, the time of local sunset and sunrise.

Sauter Hand-wound Clocks—These are very simple and rugged; designed exclusively for their job. They have ample reserve power to properly do their work even under highly adverse conditions.

Sauter Self-winding Clock—Actual Size 4 x 3½ x 1¾-in.—The one-third size double exposure "phantom view" shows the simple and solid gear-train, but cannot do full justice to the high perfection of this mechanism. Its reserve running power is 4 days so that power shut-offs cannot affect its time-keeping accuracy. The automatic re-winding is effected by the precision-built electric motor described hereunder.

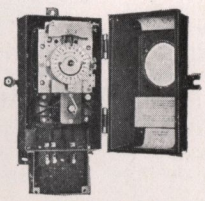
Sauter Motor—This motor, which is only used in the self-winding switches, is of the series universal type for use on circuits of either 115 or 230 volts D. C., or A. C. of any frequency. Voltage drops of as much as 20% do not impair its dependability. In all motor-wound switches with the exception of the ZEE types it is used to re-wind the clock and also re-wind the separate switch spring which furnishes the power for the quick make and break of the main contacts. (In the ZEE type the clock furnishes the power required to trip the main contacts.) This motor runs only from 20 seconds per day in the smallest switch to 3 minutes in the largest switch and consumes only 20 watts while running, *i.e., less than 5 cents worth of current per year.*



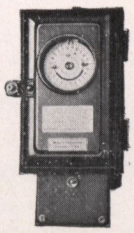
Sauter Self-winding Clock



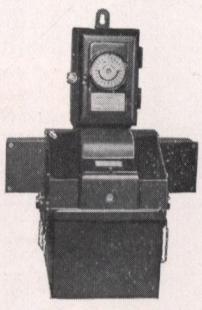
14-day Clock, dial-operated switch. Type S



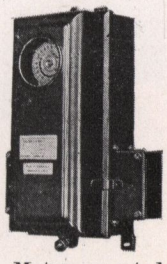
40-day Clock, dial operated switch. Type ZME



Self-winding Clock, dial operated switch. Type ZEE



Motor-operated oil break switch. Type ZMO



Motor-operated switch. Type ZM

Sauter Motor-operated Switch Unit—All Sauter motor-operated switches have double-break, self-wiping contacts and are generously dimensioned. Being motor operated through a strong spiral spring, the contacts are seated under considerable pressure and are locked in position until released by the motor, at the next operating period. The actuating spring, being re-wound prior to the action of the switch-tripping release, insures positive and quick make-and-break.

Special Types—In addition to the types listed on next page there are a number of other stock types, such as: (1) *Interval Timers* (a) automatically repeating (b) non-repeating; (2) *Contact-making clocks*, for impulses every minute or every 5, 10, 15, 20, 30 or 60 minutes, continuously or intermittently; (3) *Time switches* for unusual programs. Innumerable combinations are possible with Sauter Standardized Units.

Inquiries—If time is pressing, the subsequent paragraphs used in conjunction with the condensed tabulation, may suffice. But in any event, inquiries are solicited. These should give the following information:

(1) Number of amps. and volts to be controlled.
(2) Program of operation desired.
(3) Application (Illumination, Motors, Heaters, etc.).

Selection from Tabulation

By checking your requirements against the five following questions you automatically eliminate all except the correct types, from the partial list tabulated below.

(1) Which of the Following 24-hour Programs?

Accomplished by types checked in program column

Single-throw Switches

ON-OFF (once or twice daily).....A

Double-throw Switches

OFF-No. 1 and ON No. 2—OFF No. 2 and ON No. 1.....B
ON No. 1 momentarily—ON No. 2 momentarily.....C
ON No. 1—ON No. 2—OFF No. 1 and No. 2.....D
ON No. 1 and No. 2—OFF No. 1—OFF No. 2.....E
ON No. 1—OFF No. 1 and ON No. 2—OFF No. 2.....F

(2) Are the Operations to be Astronomically and Automatically Adjusted Daily?

When required, accomplished by types checked in program column

ON, or ON No. 1, or ON No. 2, or ON No. 1 and No. 2..G
OFF, or OFF No. 1, or OFF No. 2, or OFF Nos. 1 and 2.H

(3) Are the Operations to be Omitted Sundays?

Switch to remain OFF throughout Sundays, or to remain ON No. 1 or ON No. 2 throughout Sundays....I

(4) What Load to be Directly Controlled?

The guiding factor is "amperes" if under 500 volts; "volts" if over 2000 volts.

If a remote (magnet-operated) switch is to be controlled by the time switch, a 2-amp., single-pole time switch is generally indicated. If the load is to be handled directly by the time switch the total number of connected "watts" will give the total amps., as follows:

2-wire, 110-volt Supply: (single or double-pole time switch)

EXAMPLE: $\frac{\text{Total watts} = 4400}{\text{Volts} = 110} = 40$ Amps.

3-wire Supply, Solid Neutral: (double-pole time switch connected to outside legs, 220 volts)

EXAMPLE: $\frac{\text{Total watts} = 4400}{\text{Volts} = 220} = 20$ Amps.

Having ascertained the load in *amperes*, and also the required number of poles look for the equivalent or next higher rating and see that the program you have selected under items "1, 2 and 3" is checked as "obtainable" in the corresponding spaces A-I.

(5) 14-day, or 40-day, or Self-winding Clocks?

A self-winding clock is always preferable. It practically eliminates the human element. When the time switch must carry over 15 amps. or over 250 volts, the switch must be of substantial construction. Hence, the larger Sauter Switches are motor-operated, though clock-controlled. The electric operating motor also rewinds the clock. Moreover, these larger *loads* are costly current consumers and their very nature and purpose demand a highly perfected Time Switch.

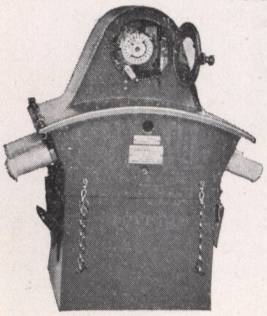
A 40-day clock can be used where monthly winding can conveniently be attended to, and where the direct load is not over 15 amps.

A 14-day clock is suitable where weekly winding is routine practice (and likely to so remain). Loads of over 15 amps. must be handled through the intermediary of a remote control switch, in which event a 2-amp. or 10-amp. single-pole time switch is indicated.

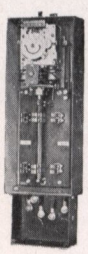
PARTIAL LIST OF SAUTER TIME SWITCHES

Programs obtainable									Switch capacity		No. of poles	Symbol	Max. Dimens., in. high-wide-deep	Estimating price and footnotes
A	B	C	D	E	F	G	H	I	Amps.	Volts				
14-day 7-jewel Clock—Dial-operated Switch														
√	√	–	–	–	–	–	–	–	2	250	1	S(U)–2–1	10x 5x 5	$40 *1
√	–	–	–	–	–	–	–	–	10	250	1	S–10–I	10x 5x 5	44
√	–	–	–	–	–	–	–	–	15	250	2	S–15–II	10x 5x 5	48
40-day 13-jewel Clock—Dial-operated Switch														
√	√	–	–	–	–	√	√	–	2	250	1	ZME(U)–2–I	13x 6x 6	52 *1,2,4
√	–	–	–	–	–	√	√	–	10	250	1	ZME–10–I	13x 6x 6	56 *2,4
√	–	–	–	–	–	√	√	–	15	250	1	ZME–15–II	13x 6x 6	60 *2,4
Self-winding 13-jewel Clock—Dial-operated Switch														
√	√	–	–	–	–	√	√	–	2	250	1	ZEE(U)–2–I	13x 6x 6	75 *1,2,4
√	–	–	–	–	–	√	√	–	10	250	1	ZEE–10–I	13x 6x 6	80 *2,4
√	–	–	–	–	–	√	√	–	10	250	2	ZEE–10–II	13x 6x 6	85 *2,4
Self-winding 13-jewel Clock—Motor-operated Switch														
√	√	–	–	–	–	√	√	√	10	250	2	ZM–10–II	15x10x 6	95 *1,2,3,5
√	–	–	–	–	–	√	√	√	10	250	3	ZM–10–III	17x11x 7	100 *2,3,6
√	√	–	–	–	–	√	√	√	25	250	2	ZM–25–II	15x10x 6	105 *1,2,3,5
√	√	–	–	–	–	√	√	√	40	250	2	ZM–40–II	15x10x 6	110 *1,2,3,5
√	–	–	–	–	–	√	√	√	40	250	3	ZM–40–III	17x11x 7	116 *2,3,6
√	√	–	–	–	–	√	√	√	60	250	2	ZM–60–II	24x 8x 7	132 *1,2,3,6
√	√	–	–	–	–	√	√	√	60	250	3	ZM–60–III	24x 8x 7	150 *2,3
√	–	–	–	–	–	√	√	√	100	250	2	ZMO–100–II	30x16x 9	190 *2,3,7,8
√	–	–	–	–	–	√	√	√	100	250	3	ZMO–100–III	30x16x 9	198 *2,3,7,8
√	–	–	–	–	–	√	√	√	200	250	2	ZMO–200–II	38x24x12	250 *2,3,7,9
√	–	–	–	–	–	√	√	√	200	250	3	ZMO–200–III	38x24x12	270 *2,3,7,9
–	√	–	–	–	–	√	√	√	10	250	4	ZMU–10–VI	17x11x 7	120 *2,3
–	√	–	–	–	–	√	√	√	25	250	2	ZMU–25–II	17x11x 7	130 *2,3
–	–	√	–	–	–	√	–	√	30	250	1	ZMU–30–I	15x10x 6	135 *2,3,5
–	–	–	√	–	–	√	√	√	40	250	2	ZMZ–40–II	17x11x 7	135 *2,3,6
–	–	–	–	√	–	√	√	√	40	250	2	ZMA–40–II	17x11x 7	135 *2,3,6
–	–	–	–	–	√	√	√	√	40	250	2	ZMU–40–II	17x11x 7	135 *2,3,6
√	–	–	–	–	–	√	√	–	25	4600	2	HZ 46/25 II	30x22x14	235 *2,7,10,13
√	–	–	–	–	–	√	√	–	25	4600	2	HZE 46/25 II	34x22x14	285 *2,7,11,13,14
√	–	–	–	–	–	√	√	–	25	4600	2	HZS 46/25 II	35x22x18	360 *2,7,11,13,14,15
√	–	–	–	–	–	√	√	–	25	4600	3	HZ 46/25 III	30x22x14	255 *2,7,10,13
√	–	–	–	–	–	√	√	√	50	4600	2	HZ 46/50 II	30x22x14	245 *2,3,7,10,13
–	–	–	–	√	–	√	√	–	50	4600	2	HZA 46/50 II	30x22x14	360 *2,7,10,13
√	–	–	–	–	–	√	√	√	50	4600	3	HZ 46/50 III	30x22x14	265 *2,3,7,10,13
√	–	–	–	–	–	√	√	√	50	4600	3	HZE 46/50 III	34x22x14	315 *2,3,7,11,13,14
√	–	–	–	–	–	√	√	–	25	8000	2	HZ 80/25 II	36x28x18	295 *2,7,12,13
√	–	–	–	–	–	√	√	–	25	8000	3	HZ 80/25 III	36x28x18	335 *2,7,12,13
√	–	–	–	–	–	√	√	√	50	8000	2	HZ 80/50 II	36x28x18	315 *2,3,7,12,13
√	–	–	–	–	–	√	√	√	50	8000	3	HZ 80/50 III	36x28x18	360 *2,3,7,12,13

*1 Can be used as a single-pole, double throw switch.
*2 For Astronomic Dial add $15.
*3 For Sunday Cut-Out add $25.
*4 For C. I. Weatherproof Case add $10.
*5 For C. I. Weatherproof Case or for Submersible Case add $20.
*6 For C. I. Weatherproof Case or for Submersible Case add $25.
*7 Oil for breaker tank *not* included.
*8 1 gal. of circuit breaker oil req'd.
*9 3 gal. of circuit breaker oil req'd.
*10 4 gal. of circuit breaker oil req'd.
*11 6 gal. of circuit breaker oil req'd.
*12 7 gal. of circuit breaker oil req'd.
*13 This Primary Voltage Switch has a 100/250-volt operating motor.
*14 This switch has a transformer for the motor. The ratio is 19:1. Can be used on 4600-volt and 2300-volt Primary.
*15 This switch is for Underground Installation. It has disconnect-type wiping sleeves. Conforms to A. I. E. E. specifications on underground circuit breakers.



4600-Volt Oil Break Switch Type HZ



60-Amp. 250-Volt Type ZM (Cover Off)

Reliance Automatic Lighting Co.

Manufacturers of Time Switches

1931 Mead Street, Racine, Wis.

"Reliance" and "Racine" 8-Day Time Switches

These reliable devices are used for automatically controlling the circuits of electric signs, window displays, and for any other purpose where lights are to be turned on or off at predetermined times. All types turn current on and off, and run 8 days on one winding.

Constructed throughout of the best materials by skilled workmen. Approved by the National Board of Fire Underwriters.

Backed by our well-known guarantee—should a "Reliance" or "Racine" time switch prove defective within one year, we will ship a new complete movement of the same type that proved defective. We also enclose postage for the return of the defective movement. The change can be made with a screwdriver in a few minutes.

"Reliance" 8-Day Time Switch

Nineteen years of successful service have proven "Reliance" switches to be the best moderately priced devices of their kind on the market.

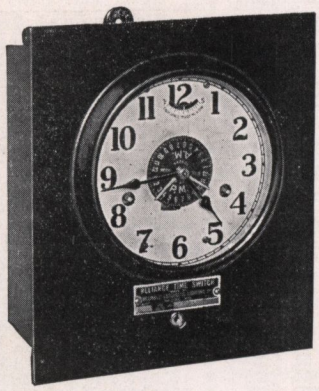
The movement is large and sturdily built for long service—some made 19 years ago are still in use. Entire movement can be removed from the case without removing the latter from the wall or disturbing the conduit. No soldering of wires when connecting or cutting of wires when removing. Dial is lithographed on metal, and there is a 48-minute sweep of the regulator, with an absolutely accurate scale for close regulation. The hands are heavy and not easily bent out of shape.

The case is of cast iron, finished with two coats of black japan. A $\frac{1}{16}$-in. felt gasket between door and case, and around the glass, also a $\frac{1}{8}$-in. dust flange on both door and case, make the device dust-tight. Cases are regularly furnished with hole for conduit drilled in right hand bottom, but on special order this hole will be drilled in the back of the cases at extreme lower right. Cases can also be set in the wall semi-flush.

One long hanger in center of back and one hole inside of case at bottom—easily fastened to wall.

All closed face cases are drilled for padlock; open face cases drilled for padlock only when specified, at no additional cost.

Made in both open face (for indoor use) and closed face (for outdoor use or for places where glass is in danger of being broken). All types are 9 x 10⅛ x 5⅝ in. deep. Net weight, 17½ lb.; shipping weight, 22 lb.



***"RELIANCE" TIME SWITCHES**

Types 10, 20, 30 and 50, for signs, windows, etc., are straight "on" and "off" switches. Can be connected single or double-pole, and operate on alternating or direct-current up to 250 volts.

Type No.	Amperes	§List price	Type No.	Amperes	§List price
10	10 or less	$28.00	50	50 or less	$36.00
20	20 or less	30.00	†20 or less		32.00
30	30 or less	32 00	.....	.....	.....

* All types made in open or closed face.
§ F.o.b. Racine, Wis.
† Triple-pole.

APARTMENT HOUSE AND SPECIAL TYPES

The following types are 2 and 3-circuit. Made in single-pole only. Operate on any current up to 250 volts. Total load: 20 amperes, 125 volts; 10 amperes, 250 volts.

Type No.	Circuits	*Operation of circuits	†List price
A	2	No. 1 on — No. 2 on — Both off together.....	$30.00
B	2	Both on together — No. 1 off — No. 2 off.....	30.00
C	2	No. 1 on — No. 2 on — No. 1 off — No. 2 off....	30.00
D	3	No. 1 on — No. 2 on — No. 3 on— All off.....	30.00
E	2	§No. 1 on — No 1 off and No. 2 on — No. 2 off.....	30.00
F	2	§No. 1 on — No. 1 off — No. 2 on — No. 2 off.....	30.00
G	2	No. 1 on — No. 2 on — No. 2 off — No. 1 off.....	30.00

* The dashes (—) represent time between operations, which must be at least one hour.

§ Note the difference between Types E and F. In F, there must be at least one hour between No. 1 off and No. 2 on; Type E snaps directly into No. 2.

† F.o.b. Racine, Wis.

"Racine" 8-Day Time Switch

A lower-priced device than the "Reliance," yet strongly built. Made largely of "Reliance" parts and bears the same guarantee.

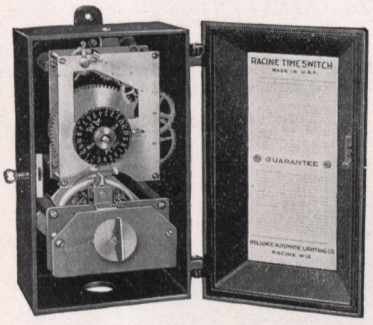
Made in dustproof closed face type only.

Composed of 3 units—clock movement, switch mechanism and snap switch—all quickly interchangeable with the use of a screwdriver. By removing one screw in top of case, entire mechanism can be removed. Large and powerful movement weighs nearly 2 lb., insuring long life, dependable service and minimum upkeep cost.

Has a light ("on") hand and a dark ("off") hand traveling in separate planes and performing only their separate duties. Dial and hands can be set in less than 5 seconds by the use of one thumb screw.

Switch is driven by a separate spring—power is not taken from the time spring. Switch mechanism can be tripped by hand without interfering with regular setting. Switch mechanism indicates whether switch is "on" or "off," showing white for "on" and black for "off."

Case is of ⅛-in. cast iron, finished in black japan. Both types are 6 x 10½ x 5 in. deep. Net weight, 13 lb.; shipping weight, 18 lb.



"RACINE" TIME SWITCHES

Can be connected single or double-pole, and operate on alternating or direct-current up to 250 volts.

Type No.	Amperes	List price	Type No.	Amperes	*List price
§1–R	10 or less	$19.50	†2–R	20 or less	$23.00

* F.o.b. Racine, Wis.
§ Hole in case for ½-in. conduit.
† Hole in case for ¾-in. conduit.

WALSER AUTOMATIC TIMER CO.

342 Madison Avenue
NEW YORK, N. Y.

Walser Timers Eliminate Guesswork Wherever Interval Timing is Required

Walser Automatic Timers are now in use as standard equipment on electrical appliances of every description. To cite a few examples:

Permanent Hair-waving Machines—Over 70% of permanent hair-waving machine manufacturers are using Walser timing devices as standard equipment.

Water Heaters—The economy effected by Walser Automatic Timers has caused them to be used by water heating manufacturers over a period of many years.

Infra Red-ray Lamps—Accurate and dependable timing has made Walser Timers the choice of many manufacturers of infra red-ray lamps

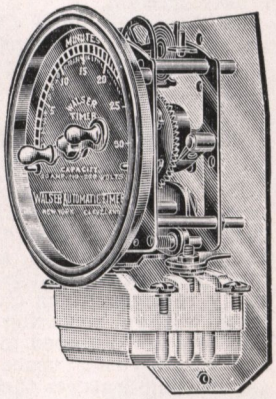
Household Appliances—Many makes of electric washing machines, toasters, heating pads, waffle irons, etc., are equipped with Walser Timers, the 6-ampere lever-control model being especially adapted to these purposes.

Other Actual Applications—Machines and appliances in use for years are being equipped with Walser Automatic Timers for timing of motors of all kinds of machinery, vulcanizers, dough mixers, baking ovens, electro-therapeutic equipment, electric cookers and broilers, percolators, radio sets, electro-typing vats, testing machines, blueprinting machines, soldering pots, magnetic clutches, battery chargers, and hundreds of other devices requiring automatically controlled current.

There is a Correct Walser Timer Model for Every Use

Walser Timers are produced in a variety of models to accurately meet every specific requirement. The timers described are stock models. They offer a timing range from zero to sixty minutes; capacities from six to twenty amperes, and "on-and-off" and "off-and-on" service.

For electrical equipment manufacturers' special requirements, the Walser Timer engineering staff design special models. Many products which are now equipped with timers were re-designed to accommodate them, and wherever such changes are found necessary or desirable, or where special timing requirements and special timing devices must be considered, a Walser Timer engineer will consult and co-operate.



Movement 2030

Movement of Models 1560 H and 1530 HM. Measures 5x3¾x2¾ in. overall. It has a 20-ampere double-pole 110-120 volt toggle-switch and is supplied with 30 or 60-minute dial. Furnished without housing for installation in instrument panels or specially designed housings.

All Walser Timers Have Clock Movements Especially Designed for the Specific Use

The clock movement used in each model of Walser Automatic Timers is built especially for the purpose. All models are of heavy and rugged construction. The escapement ratchet and lever are cut so as to prevent stopping or locking and assure starting when the switch is turned on and the clock set for operation. A friction device on the center arbor permits resetting of the pointer. As the movement never requires winding it will never run down and will not run when the pointer is at rest.

The timing qualities are accurate and the construction absolutely tamper-proof. The dials are silver, backed with scale, and the imprint is deeply etched. An easily cleanable disc is used over the dial to prevent soil and wear. All dial assembly parts are nickel-finish chromium.

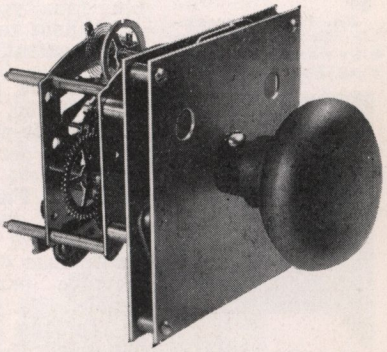
Guaranteed Mechanically Perfect

Walser Automatic Timers are guaranteed to be free from all electrical and mechanical defects, and we agree to repair or replace any instrument, not tampered with, that is found to be defective.

Prominent Users of Walser Timers

Among leading electrical equipment manufacturers who now incorporate Walser Automatic Timers in their products are: National Carbon Company, Hanovia Chemical Company, Nestle-LeMur Company, W. G. Shelton Company, Sanitarium Equipment Company, E. Frederics, Inc., The Burdick Corp.—and numerous others of equal prominence.

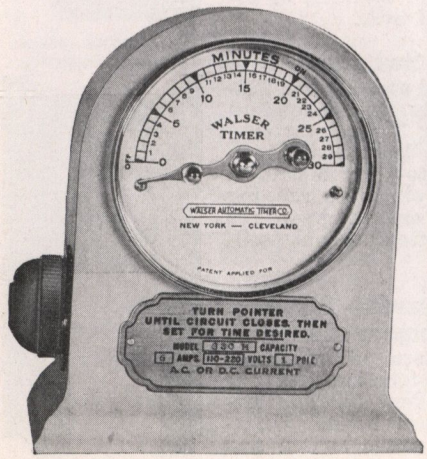
COIN TIMER
Model 615 C



Used on radios, pianos, music boxes, exercising machines, washing machines and any electrically operated device for use in public places requiring not more than six amperes of current on 110 volts.

This coin operated device made for coin of any denomination and for any time period from five to sixty minutes is supplied to manufacturers without housing, being usually built into the appliance or placed in a special housing supplied by the manufacturer for his own requirements.

The circuit breaker used in this device is a standard toggle switch. Circuit will not close until a coin of the proper denomination has been placed in the slot, and a knob or handle turned the required distance. The time control is put into motion when the knob is released and permitted to turn back automatically to neutral where it is locked and not released until another coin is inserted.



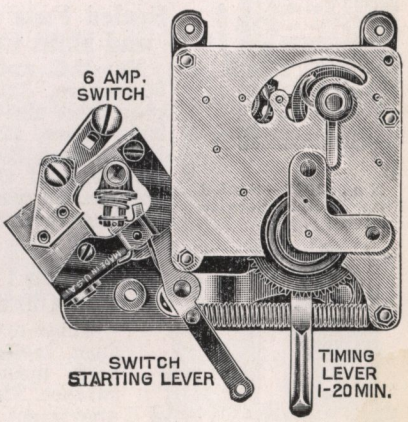
Model 630 H

This model is 4½x5½x 2½ in., has a cast-iron housing, finish in light gray enamel. Has a 6-ampere single-pole toggle-switch connected to detachable sockets. A detachable cap on the right side is used for the inlet wires, while the left side has a standard base socket to which the appliance circuit cap is connected. The pointer is turned to the right until the circuit closes, after which it can be set for any time interval desired, and will open automatically when the time has expired. This timer can be supplied with dial for 30 or 60 minutes timing range.

Model 620 L

This timer, a six-ampere lever-control, is sold without housing as, space occupied by timer varying with each manufacturer, it has been found advisable to supply timer movement only ready for installation. The timing scale can be stamped in the housing or etched on a separate strip and used to close the housing on the lever side, leaving a slot in the strip for the levers.

The time lever may be permanently adjusted from 1 to 20 minutes, if desired. The time is first set by the timing lever, the switch being turned on by the switch lever which automatically starts the clock running until the time for which the lever has been set has expired. The switch will then automatically open the circuit.



The overall dimensions of this movement are 1⅝x 2¼ in., these measurements not including the projecting levers.

Walser Automatic Devices are Approved by the National Board of Underwriters.

The Wadsworth Electric Mfg. Co., Inc.

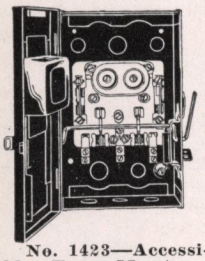
COVINGTON, KY.

Manufacturers of Meter Service and Industrial Type Safety Switches

"All Wadsworth Switches are Designed with Movable and Stationary Contacts in Plain View for Easy Inspection"

Accessible Fuse Meter Service and Main Entrance Switches Provide 100% Safety

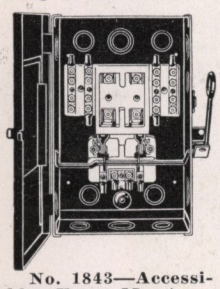
The sliding door, in the closed and sealed main cover of the switch, exposes only the fuse terminals and this sliding door can be "open" only when switch is in "off" position with the fuse terminals "dead." In this 100% safe condition for operator, the blown fuses are renewed. After sliding door is closed over fuses, switch can be thrown "on" and service is immediately restored.



No. 1423—Accessible Fuse Meter Service Switch—Plug Fuses

30-Amp. 125 or 125-250-Volt. D.C. and A.C. Single-phase Switches—For 2 or 3-wire service; plug fuse type; 1 or 2 blades, with or without test switches; fused or solid neutral.

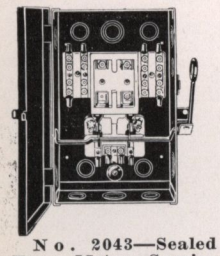
30-Amp. Channel Type Switches—For multiple meter installations; 125 or 125-250-volt; D.C. and A.C. single-phase 2 or 3-wire service; plug fuse type; 1 or 2 blades, with or without test switches; fused or solid neutral.



No. 1843—Accessible Fuse Meter Service Switch—N.E.C. Fuse

30, 60, 100, 200 and 400-ampere, 125, 125-250, or 250-volt, D.C. and A.C. Single-phase Switches—For 2 or 3-wire service; N.E.C. fuses; 1 or 2 blades; with or without test facilities. Fuse chamber and test terminals mounted near cover; switch jaws and blades mounted below fuse chamber rendering all movable parts and connections visible.

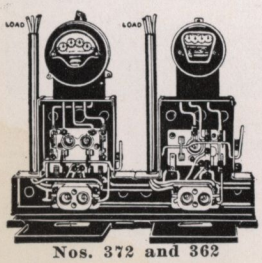
30, 60, 100, 200 and 400-ampere, 250-volt, Polyphase Switches—3 pole, 3 blade; N.E.C. fuses; with or without meter test facilities. Same construction as outlined above. Also in 3-phase, 4-wire types.



No. 2043—Sealed Fuse Meter Service Switch

Sealed Fuse Meter Service and Main Entrance Switches

For D.C. and A.C. single-phase; 30-ampere, 125 and 125-250-volt, plug fuse; also 30, 60, 100, 200 and 400-ampere, 125 and 125-250-volt, N.E.C. fuse, 2- or 3-wire; also 30; 60, 100 and 200-ampere 250-volt, polyphase types. All with or without test facilities.



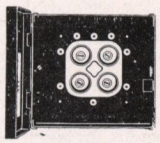
Nos. 372 and 362

Branch Circuit Type Channel Switches

These are 30-ampere, sealed-fuse meter service switches with branch fuses in same cabinet. They are designed for apartment-house work, but are admirably adapted for use in installations of from two switches to a large number.

E-Z Wiring Channels

Designed for use with Wadsworth Accessible Fuse and Sealed Fused Channel Type Switches. They eliminate the use of conduit, nipples, locknuts, and bushings when banking two or more rows of channel type switches, thus simplifying the wiring and effecting savings in installation costs.

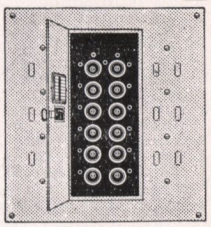


No. 4 Branch Circuit Fuse Cabinet

Branch Circuit Cabinets

For flush or surface mountings. Single fuse, dead-front construction. With 2, 4, 6, 8, 10 and 12 branch circuits.

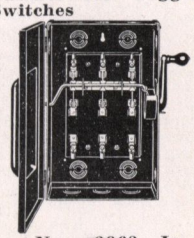
60 Ampere Range Circuit Cabinets for Flush and Surface Mounting. With or without plug fuse distribution.



12-ft. Flush Type Cabinet for Toggle Switches

Flush Type Cabinet for Toggle Switches

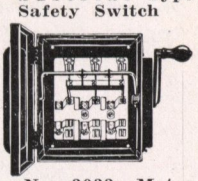
Designed so any standard toggle switch can be used. With 2, 4, 6, 8, 10 and 12-branch circuits. The dead fronts on all above cabinets arranged with insulated test holes and easily removed. Each circuit can be tested without removing dead front. Cabinets are designed to give ample and easy wiring space, and offer engineering features that will eliminate installation trouble.



No. 2863—Industrial Type Safety Switch

Industrial Type Safety Switches

Switches furnished for 30 to 1200 amp. They may be had either fused or unfused. The fused type is suitable for use as main entrance switches. Quick-break mechanism is supplied with all switches of 60-amp. capacity and over.



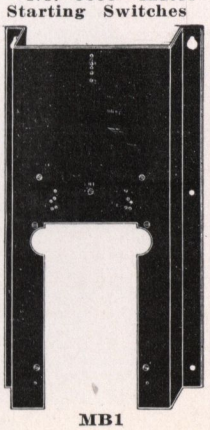
No. 3033—Motor Starting Switches

Motor Starting Switches

Double-throw, 30 and 60-amp. 250-volt switches. Only six connections need be made on 3-pole starter—3 to line and 3 to load. Switch can be thrown from starting to neutral position without going into running position. Required mounting space is very small; adequate knockout facilities.

Metal Meter Boards—for 30 and 60 Ampere Switches

Metal boards are of one-piece formed steel construction and far superior to wooden boards. Arranged with tapped holes. Unexcelled for single phase switch and meter installation.



MB1

BALDOR ELECTRIC COMPANY

Manufacturers of Ball Bearing Motors to the Machinery Trade

A Complete Line—A Complete Motor Service

4370 Duncan Ave., St. Louis, Mo.

Direct Representatives at:

Baltimore, New York, Buffalo, Portland, Ore., Boston, Chicago, Philadelphia, Cleveland, Spokane, Cedar Rapids, Seattle, Denver, San Francisco, Milwaukee, Toronto

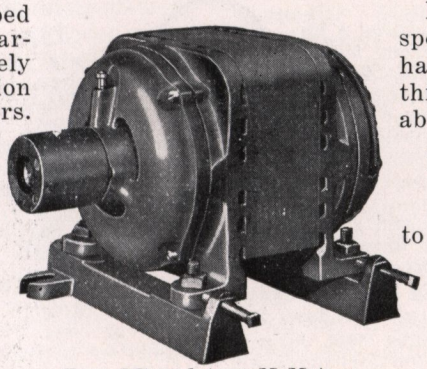
Baldor Ball Bearing Electric Motors

BALDOR
A BETTER BALL BEARING MOTOR
Eliminates Thrust and Lubrication Problems

Skeleton frame construction, liberal proportions, thorough insulation and good workmanship make the Baldor line of ball bearing electric motors desirable for every application.

All Baldor Motors are equipped with the highest grade of ball bearings and so designed as to completely eliminate the thrust and lubrication problems of sleeve bearing motors. Baldor Ball Bearings are the sealed type, designed to hold grease for lon goperating periods, and hense, Baldor Motors will run much longer (2 to 5 years) without lubrication attention than sleeve bearing motors.

All of the frames comprising the Baldor line are available as vertical motors at no great addition in price.



Type RB and type M Motors

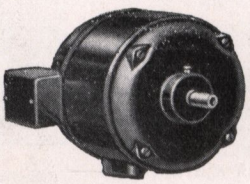
Mechanical changes to suit conditions of applications will have consideration and always receive the co-operative service of a very flexible organization.

Type RB and Type M Motors—
For general purpose application RB single phase motors with their rugged stator and simplified armature construction, will give the utmost in service.

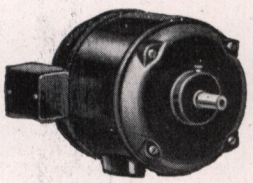
Direct-current motors to correspond in ratings to the RB ratings have a construction which has given this type greater utility and reliability.

Frames RB and M—
¾ to 7½ hp. Repulsion-induction.
¾ to 3 hp. Direct-current. 1½ to 15-hp. Polyphase.
¾ to 1½ Condenser.

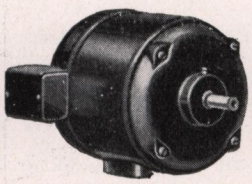
Likewise, the Type M polyphase motors with the unusual care given to field insulation and with the indestructible, all-metal rotor construction, are recommended to the motor user as being a type which will attain the highest degree of reliability and durability that has theoretically been identified with squirrel-cage design.



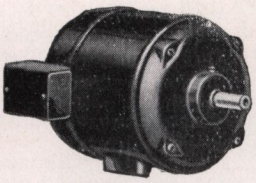
Single-Phase



Polyphase



Direct-current



Condenser

Matched Frame Ball Bearing Motors

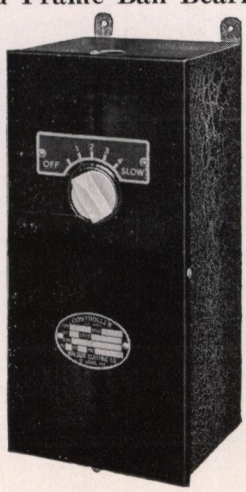
Baldor Matched Frame Motors provide self-evident advantages to makers of motor-driven equipment. Not only do the important mounting dimensions correspond but the whole assembly, with the exception of the punchings and windings, is identical for motors of a given rating and speed.

These matched motors are provided with bases for flat mounting or round stator for ring mounting. Open or totally enclosed. Windings for all standard and special current characteristics are available as follows:

Repulsion-induction, ⅛ to ¼ hp.

Direct-current, ⅛ to ¼ hp.

Polyphase, ⅛ to ¼ hp.



Split Phase, 1/20 to ¼ hp.

Condenser, 1/20 to ¼ hp.

Condenser Motors are furnished for constant or variable speeds. Two types of controllers are furnished.

The two-speed controllers are designed so as to give full speed and approximately half speed. The four-speed controller (illustrated) is designed to give full speed, 80%, 60% and 40% of full speed.

Baldor Controllers for Condenser Motors have been inspected by Underwriters' Laboratories and are listed as standard under Number E-10039. In Canada, their use has Laboratory Approval Number 2262.

Diehl Manufacturing Company

ELECTRICAL DIVISION OF THE SINGER MANUFACTURING COMPANY

Manufacturers of Electric Motors, Generators and Fans

ELIZABETHPORT, N. J.

District Offices

ATLANTA, GA.....172 Trinity Ave. S. W.
BOSTON, MASS.....75 Kneeland St.
CHICAGO, ILL.....1017 W. Jackson Blvd.
COLUMBUS, OHIO.....36 West Gay St.
DALLAS, TEX.....324 Santa Fe Bldg.
NEW YORK, N. Y.....95 Liberty St.
PHILADELPHIA, PA.....112 N. 12th St.
PITTSBURGH, PA.....319 Third Ave.
ST. LOUIS, MO.....1409 Syndicate Trust Building

Textile Representatives and General Agents: P. N. Thorpe & Co., 267 Fifth Ave., New York, N. Y.

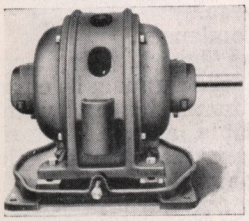
Representatives

CINCINNATI, OHIO, Buckeye Equipment Co., 10 W. Pearl St.
CLEVELAND, OHIO..Fuerst Friedman Co., 1292 E. 53rd St.
LITTLE ROCK, ARK., Arkansas Electric Co., 316 Louisiana St.
MACON, GA.....A. S. Hatcher Co.
MEMPHIS, TENN....Standard Electric Co., 591 Linden Ave.
MINNEAPOLIS, MINN.....Wm. P. Johnson, 8 No. 6th St.
NASHVILLE, TENN.....Keith Simmons Co., Inc.
NEW ORLEANS, LA., S. J. Stewart (Electric), 527 St. Joseph St.
SAN FRANCISCO, CAL., C. V. Lane, 1005 Balfour Bldg., California Street
SHREVEPORT, LA.....Cahn Electric Co., 708 Milam St.
WICHITA FALLS, TEX., Oechsner Electric Co., 807 Brook St.

Products

For over 40 years Diehl has manufactured a line of quality Alternating and Direct-current Motors and Generators, Motor-generator Sets, Electric Vehicle Motors, Electric Dynamometers, Sewing Machine Motors, Motor-driven Exhaust Fans and Blowers, also Oscillating and Non-oscillating and Ceiling type Electric Fans.

Polyphase Induction Motors



Type "ID" Motor

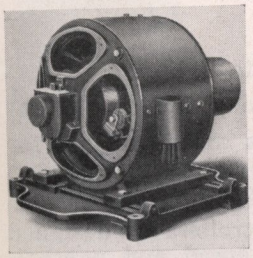
Squirrel-cage and slip-ring for general purpose duty. Type "ID" ratings, ½ to 25 hp.; Type "IS" ratings, 25 to 75 hp. For and 3-phase circuits; all standard frequencies, voltages and speeds. Horizontal and vertical mounting with sleeve, roller or ball bearings; 40° C. continuous duty rating. Particular attention given to the quality of the slot and winding insulation.

D-C. Motors and Generators

Open, semi and totally enclosed frames; shunt, compound, series wound; sleeve, roller or ball bearings; all standard speeds and voltages; belted, geared or coupled.

Type "LB" Motors—Constant speed ratings, 1 to 50 hp.; 40° C. rating, continuous duty. For general drive purposes.

Type "LA" Motors—Variable speed; ratings, ½ to 50 hp.; 40° C. rating continuous duty.



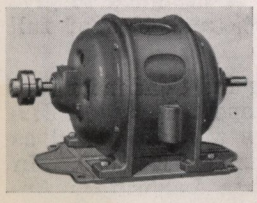
Type "LA" Motor

Type "G" Motors—Constant speed; ratings, 1/3 to 10 hp.; 40° C. rating continuous duty.

Type "K" Motors—Ratings, 10 to 300 hp. For wide speed variations by field control and high speed drives.

Type "LB," "LA" and "G" Generators—Designed for supplying 125 to 250-volt standard circuits and for 6 to 250-volt special circuits; capacities from 1/5 to 35 kw.

Sewing Machine Power Table Motors



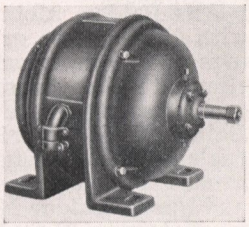
Power Table Motor

These motors are especially designed for sewing machine power tables.

Furnished for alternating and direct-current. Slow speed motors furnished for direct connection; high speed motors for belt, gear or chain drive.

Ratings, ½ to 5 hp.

Textile Mill Motors—Type "IDT"



Type "IDT" Motor

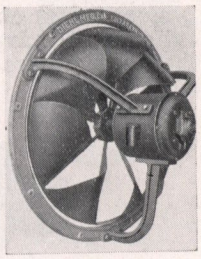
Fully enclosed; roller bearings. Furnished in all standard sizes for all standard voltages, frequencies and speeds. Have high starting torque, efficiency and power factor. Low temperature rise.

Designed particularly for textile mill service.

Motor-generator Sets

Motor directly coupled to generator and mounted on common base. Combinations of various voltages and capacities to suit requirements.

A-C. and D-C. Exhaust Fans



Exhaust Fan

High and low speed types. Reliable and efficient. Direct connected, totally enclosed motors for all standard electrical circuits. Sizes: 18, 24, 30, 36, 42 and 48 in.

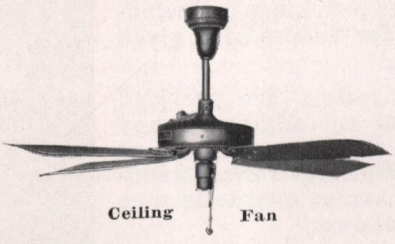
A-C. and D-C. Ventilating Fans

For use in small rooms, kitchens, lavatories, booths, etc. Silent and efficient. Suitable for all standard electrical circuits. Flat or bucket blades. Sizes: 9, 12, 15 and 16 in.

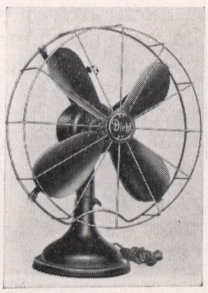
Desk and Ceiling Fans

Diehl Fans have long maintained an enviable reputation for quality and completeness of sizes and styles. Built for all standard electrical circuits.

Oscillating and non-oscillating desk fans are made in 9, 10, 12 and 16-in. sizes; ceiling fans furnished in 32, 52 and 56-in. sizes.



Ceiling Fan



Oscillating Desk Fan

Special Apparatus

Frequently there is a demand for equipment which is not strictly standard and consequently not regularly listed. On all such inquiries, the Diehl engineers give special attention.

The Domestic Electric Company

Small Motor Manufacture—Appliance Advisory Engineering

KENT, OHIO

Courtesy office, No. 967 Union Trust Bldg., Cleveland, Ohio

Products

Fractional horsepower motors exclusively, up to one hp.; all motors especially designed and built to suit the specific motor driven appliance on which they are to be used.

Universal Motors designed and built for a wide variety of electric appliance applications.

Domestic Automatic Safety Switch.

Fractional Horsepower Motors

Specifications—Windings include series, compensated series, induction, also shunt and compound D.C. Field and armature cores are laminated with exception of D.C. which has solid pole pieces.

Motors furnished for all commercial voltages and cycles.

The speed of series motors varies according to the load applied. A heavy load tends to retard the speed. As the load is removed the motor speeds up.

Shafts are mounted in either ball bearings or phosphor bronze sleeve bearings. Ball bearings are packed in grease. Sleeve bearings are lubricated by means of packing contained in oil wells.

Motors are furnished in parts consisting of armature, field and brush mechanism—skeleton frame in which the parts are held together by end brackets—completely finished motors in housings especially designed for particular applications.

A Few Representative Products—Leaders in Their Field—Powered with Domestic Fractional Horsepower Motors

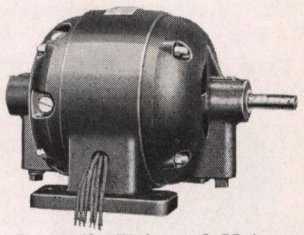
"White" Sewing Machines.
"Domestic" Sewing Machines.
"National" Sewing Machines.
"Royal" Vacuum Cleaners.
"Ohio Tuec" Electric Cleaners.
"Newcombe" Bagless Vacuum Cleaners.
"Sweeper Vac" Vacuum Cleaners.
"Ponsell" Vacuum Cleaners.
"Black & Decker" Portable Electric Tools.
"Van Dorn" Portable Electric Tools.
"Sunkist" Fruit Juice Extractors.
"Edenette" Washing Machines.
"Whirldry Jr." Clothes Washers.
"Handi" Portable Electric Washers.
"Cinderella" Clothes Washers.
"Sundryette" Hair Dryers.
"Oster" Pipe Threading Equipment.
"Floorola" Floor Polishers.
"Scott & Fetzer" Sanitation Systems.
"DeVilbiss" Air Compressors.
"De Walt" Junior Woodworker.
"Summerheat" Oil Burners
"Woods Waxer" Floor Polishers.
"Ponsell" Floor Polishers.
"Regina" Floor Waxers and Polishers.
"Skilsaw" Saws.
"Sterling" Sirens.
"Airator" Desk and Table Fans.
"Porter-Cable" Sanders.
"Crescent" Woodworking Machines.
"Alta" Woodworking Tools.
"Carter" Woodworking Tools.
"Curtis" Air Compressors.
"Electric Sprayit" Sprayers.
"Teesdale" Oil Burners.
"Clean Quick" Dish Washers.
"Electricut" Meat Choppers and Coffee Mills.
"Kellogg" Air Compressors.
"Juvenator" Health Machine.
"Red Jacket" Exercisers.
"Claritor" Air Clarifiers.

Organization

Engineers who supervise the development of motor applications in the Domestic Electric laboratory also contact the customer or prospective customer, so that all details of the proposition are obtained first-hand. Complete co-ordination between the customer and the Domestic engineering department is constantly maintained, and contact is entirely with the main factory before and after application. Latest and most modern testing and manufacturing equipment is used—usually designed and developed in the Domestic plant to build motors according to Domestic methods.

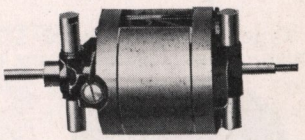
Universal Motors

Domestic Electric Universal Motors are unusually light in weight, a fact which is important in portable devices. They combine high quality of materials with great compactness and small cost of operation. By employing the Universal type of motor, fewer motors are required to cover the commercial range of currents.



Domestic Universal Motor

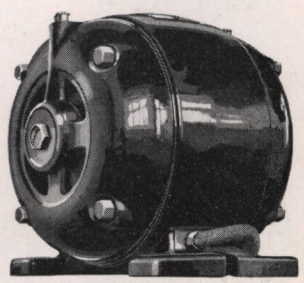
Universal Motor Speeds—no load, 7,500 r.p.m.; ¼ hp., 5,500 r.p.m.; ½ hp., 4,750 r.p.m.; ¾ hp., 4,000 r.p.m. Weight, 38 pounds.



This type of motor can be made to cover a wide range of speeds and power from ⅛ hp., at 8,000-9,000 r.p.m., down to speeds as low as 2,000 r.p.m. Weight, 3 to 4 pounds.

Constant Speed Motors

The Domestic line of constant speed motors comprises a conventional type of split-phase induction for A.C. current and shunt and compound motors for D.C. current. Ranging from ⅛ to 1/3 hp., with speeds from 1,160 to 3,500 r.p.m. Specifications may be varied over a wide range to adapt the motor to the service for which it is to be used.



¼ hp., 1,750 r.p.m. Split-phase induction motor built for end bracket mounting. Weight, 20 pounds.

Appliance Advisory Engineering

The Domestic Electric Company welcomes consultation on problems of appliance design from "the idea" to the completed model—as well as problems of re-design of existing models—functioning with the appliance manufacturer as a department of his own business.

DUMORE COMPANY

INCORPORATED

93 - 16th Street, Racine, Wis.

DUMORE Universal Fractional Horsepower Motors

DUMORE Universal Motors have proved their adaptability to a wide range of power applications. Manufacturers of blowers, fans, vacuum cleaners and similar machines and appliances, have found that DUMORE dependability under severest service adds a very substantial merchandising value to their products.

DUMORE Motors operate on either A.C. or D.C. current. 110-volt motors have a range of 105-120 volts D.C., on 25 to 60 cycles, one, two or three-phase A.C. Also made for 32, 220 and 250-volt service.

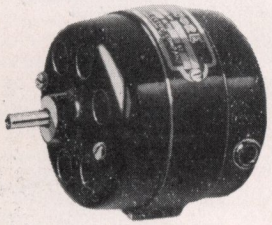
The speed range when idling is from 10,000 to 15,000 r.p.m. Maximum horsepower is developed at from 4,000 to 8,000 r.p.m. For lower speeds we supply worm gear reduction units.

Dynamic Balance—This eliminates vibration and consequent bearing wear, also assures smoothness and quietness of operation.

Precision Machining—Armature shafts are made from highest grade cold drawn steel shafting, finish ground to a plus tolerance not greater than .00025 inch.

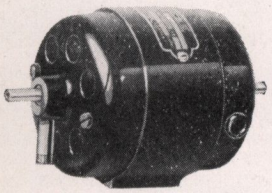
Direction of Rotation—Furnished to run either direction, but not reversible by reversing brush leads. We furnish reversible-duty motors, when desired, equipped with a reversing switch with lever protruding beyond frame.

Type A Motor—Rated 1/25 hp. Cast iron frame, black finish. Babbitt bearings, wick oil feed. Flat 1 x 1½ in. base for mounting. Motor diameter 3⅜ in., length 3 27/32 in., not including shaft extension of ¾ in. on one end. Shaft diameter ¼ in. Armature core ¾ x 1½ in.

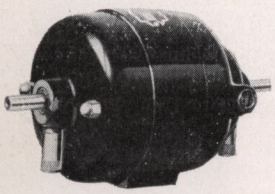


Counter-clockwise rotation at shaft extension end. Motor weight complete, 3 lbs. 2 oz.

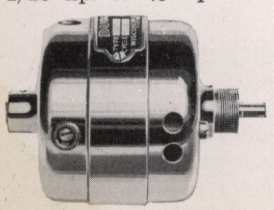
Type C Motor—Rated 1/16 hp. Iron frame, black finish. Flat 1½ x 1¾ in. base for mounting. Motor diameter 3⅜ in., length 4 11/16 in. not including shaft extension. Approximately ¾ in. shaft extension provided at each end of motor. Shaft diameter ¼ in. Dynamically balanced armature core 1½ x 1½ in. Clockwise rotation at commutator end. Motor weight 4½ lbs.



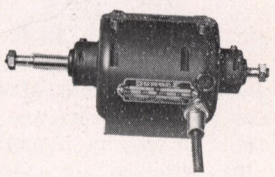
Type D Motor—Rated ⅛ hp. Cast iron frame, black finish. Babbitt bearings. Grease cup lubrication. Flat 1½ x 2 in. base for mounting. Motor diameter 4⅜ in., length 5 15/16 in. Shaft diameter ⅜ in. Motor can be furnished with tapered shaft extension (¼ in. to the foot). Frame has ventilating holes, but can be furnished with closed case. Armature core 2 x 2 in. Counter-clockwise rotation at commutator end. Motor weight 9 lbs.



Types SA and SAX Motors—Five sizes ranging from 1/25 hp. to ⅛ hp. For the motor user who requires slightly more or less than our standard sizes. Die mould frames, highly polished nickel finish. Self-aligning babbitt bearings, wick oil feed. Bearings easily replaced when necessary. SA series has enclosed housing without grease cups; SAX series has grease cups and ventilated frame.



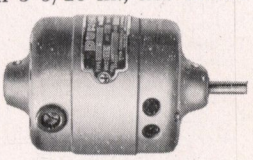
No. 2-Gm Motor—Develops 1/6 hp. Die mould frame, black finish. SKF self-aligning ball bearings standard. Motor frame diameter 4 in., length 6⅜ in. Armature core 2 x 2 in. Shaft diameter ½ in. with shaft extension of 27/32 in. on commutator end, and 2 7/32 in. on opposite end. One end of shaft machined to ⅜ in. for length of shaft extension, threaded left hand for S.A.E. thread. Opposite end machined to ⅜ in. for a distance of 1 1/32 in., threaded for ⅜ in. right hand No. 24 S.A.E. thread. Motor weight 8 lbs.



No. 3-GM Motor—Develops ¼ hp. Aluminum motor frame, black finish. Motor diameter 4⅜ in., length 8 3/16 in., exclusive of 1 in. shaft extension on commutator end. Armature core 2 x 3 in. Shaft diameter ½ in., threaded for ½ in. No. 20 U.S.S. left hand thread. End of shaft machined to 3⅜ in. across flats. Armature equipped with ventilating fan. Motor case has ventilating holes to facilitate motor cooling.



Type E Motor—Rated at 1/40 hp. Aluminum frame. Motor diameter 2 11/16 in., length 3 5/16 in., not including shaft extension of ¾ in. on one end. Shaft diameter ¼ in. Armature core 1⅜ x ¾ in. Clockwise rotation. Can also be furnished in counter clockwise rotation. Motor weight complete 1 lb. 5½ oz.



Special Equipment for Dumore Motors

Bronze or bakelite worm gear units furnished with Types A, C, and D Motors, and SA and SAX series. Six combinations available: 20 to 1, 11 to 1, 21 to 8, 27 to 6, 40 to 1, and 60 to 1. Other gear ratios furnished on special order. Units are equipped with babbitt bearings. Gears run in grease, making them practically noiseless.

Dumore Motors are quoted as stripped and without base. Types A, C, and D are designed with flats for mounting. Other types require special base for mounting. We can supply bases for all types except the No. 3-GM Motor. Bases for Types C and D can be equipped with five-step rheostat. Special pressed steel base available for SA and SAX series.

GRAYBAR ELECTRIC COMPANY

Electrical Equipment for Home, Office and Industry

Graybar Building, Lexington Avenue at 43rd Street

NEW YORK, N. Y.

Distributing Houses

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BIRMINGHAM
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SAVANNAH
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SPOKANE
SYRACUSE
TACOMA
TAMPA
TOLEDO
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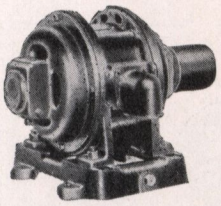
Products

The Graybar Electric Company distributes more than 60,000 electrical products of every description. This supply service embraces the entire electrical industry, meeting every electrical need. These products of more than 300 manufacturers are brought within reach of electrical buyers everywhere through a nation-wide system of strategically located warehouses.

Through the 73 distributing houses listed above, Graybar Electric makes available everything electrical to transmit, control and apply electricity in industry.

Power Apparatus

For general power service, Graybar offers a-c. and d-c. motors and control of rugged construction to meet any requirements.

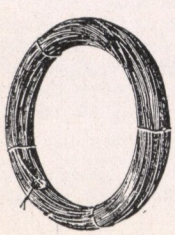


Standard windings meet all ordinary conditions of temperature and moisture. When acid vapors are present special insulation at slight additional cost is recommended.

Safety Switches

These switches safeguard men and machinery against the accidents common with obsolete open knife switches.

Steel Enclosed Switches are designed for use with all types of motors and to control lighting and power circuits.



Wiring Supplies

Graybar Electric Distributing houses carry large stocks of wiring supplies for power, light and intercommunication, construction and maintenance.

This includes wire, conduit, wiring devices, conductors, etc., for all purposes. All materials are standard quality, the products of long established, well-known manufacturers.



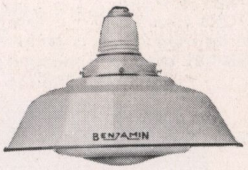
Intercommunication

Graybar Electric Inter-Phones provide direct intercommunication between points in one or several buildings.

Various systems have been developed to cover a wide range of conditions.

A Complete Lighting Service

Graybar Electric offers a complete line of representative types of lighting units, for offices, factories, and outside areas. Also standard lighting units for direct, semi-direct, and indirect lighting systems; floodlights and porcelain enameled steel reflectors.



Competent lighting specialists may be consulted, without obligation, through Graybar offices.

Sunbeam Mazda Lamps



Sunbeam Mazda Lamps are available on quick call at Graybar Electric distributing houses conveniently located in 73 principal cities throughout the country. These well-known, extremely efficient lamps are stocked in the 5 standard sizes—25, 40, 50, 60 and 100 watts—lately adopted to simplify ordering.

The Graybar Electric Catalog 100

The products shown above cover only a very small portion of the 60,000 items mentioned in the Graybar Electric Year Book, a book of 1086 pages which has proven its value to contractors, engineers, architects, etc. Write for your copy to our nearest office or address Graybar Electric Company, Graybar Building, Lexington Ave. at 43rd St., New York, N. Y.

GENERAL ELECTRIC COMPANY

General Office:
Schenectady, N. Y.

Sales Offices (Address nearest Office)

ALABAMA:
Birmingham....2031 First Ave., North
ARIZONA:
Phoenix .....11 W. Jefferson St.
CALIFORNIA:
Los Angeles .....5201 Santa Fe Ave.
San Francisco .....235 Montgomery St.
COLORADO:
Denver .....650 Seventeenth St.
CONNECTICUT:
Hartford .....18 Asylum St.
New Haven .....129 Church St.
Waterbury .....195 Grand St.
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Atlanta .....187 Spring St., N. W.
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Terre Haute .....701 Wabash Ave.
IOWA:
Davenport .....111 East Third St.
Des Moines .....418 West Sixth Ave.
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Louisville .....455 South Fourth St.
LOUISIANA:
New Orleans .....837 Gravier St.
Shreveport .....513 Marshall St.
MARYLAND:
Baltimore .....39 W. Lexington St.
MASSACHUSETTS:
Boston .....84 State St.
Springfield .....1387 Main St.
Worcester .....340 Main St.
MICHIGAN:
Detroit .....700 Antoinette St.
Grand Rapids .148 Monroe Ave., W.
Jackson.....212 Michigan Ave., W.
MINNESOTA:
Minneapolis.....107 South Fifth St.
Duluth.....14 West Superior St.
MISSOURI:
Kansas City.....1004 Baltimore Ave.
St. Louis .....112 North Fourth St.
MONTANA:
Butte .....20 West Granite St.
NEBRASKA:
Omaha.....409 S. Seventeenth St.
NEW JERSEY:
Newark .....20 Washington Place
Trenton.....143 E. State St.
NEW YORK:
Binghamton .....19 Chenango St.
Buffalo .....39 East Genesee St.
New York .....120 Broadway
Niagara Falls .....201 Falls St.
Rochester .....89 East Ave.
Schenectady .....1 River Rd.
Syracuse .....113 South Salina St.
Utica .....258 Genesee St.
N. CAROLINA:
Charlotte .....200 South Tryon St.
OHIO:
Akron .....159 South Main St.
Canton .....700 Tuscarawas St., W.
Cincinnati.....215 West Third St.
Cleveland .....925 Euclid Ave.
Columbus .....17 South High St.
Dayton .....25 North Main St.
Toledo .....520 Madison Ave.
Youngstown .....16 Central Square
OKLAHOMA:
Oklahoma City.....15 N. Robinson St.
Tulsa .....409 South Boston St.
OREGON:
Portland.....329 Alder St.
PENNSYLVANIA:
Erie .....10 East Twelfth St.
Philadelphia.....1321 Walnut St.
Pittsburgh .....535 Smithfield St.
RHODE ISLAND:
Providence.....76 Westminster St.
TENNESSEE:
Chattanooga .....536 Market St.
Knoxville .....602 South Gay St.
Memphis.....130 Madison Ave.
Nashville .....234 Third Avenue N
TEXAS:
Amarillo..... 806 South Grant St.
Dallas .....1801 North Lamar St.
El Paso .....109 North Oregon St.
Fort Worth.....410 W. Seventh St.
Houston .....1016 Walker Ave.
San Antonio.....201 Villita St.
UTAH:
Salt Lake City .....200 S. Main St.
VIRGINIA:
Richmond.....700 East Franklin St.
Roanoke .....202 S. Jefferson St.
WASHINGTON:
Seattle.....821 Second Ave.
Spokane.....421 Riverside Ave.
Tacoma.....1019 Pacific Ave.
W. VIRGINIA:
Bluefield .....307 Federal St.
Charleston .....304 Capitol St.
Wheeling .....40 Fourteenth St.
WISCONSIN:
Milwaukee.....425 East Water St.

HAWAII: W. A. Ramsay, Ltd., Honolulu
CANADA: Canadian General Electric Co., Ltd., Toronto
Motor Dealers and Lamp Agencies in All Large Cities and Towns

Service Shops

ATLANTA.....496 Glenn St., S. W.
BUFFALO.....318 Urban St.
CHICAGO.....509 East Illinois St.
CINCINNATI.....215 West Third St.
CLEVELAND.....1133 East 152nd St.
DALLAS.....1801 North Lamar St.
DETROIT.....700 Antoinette St.
KANSAS CITY.....819 East 19th St.
LOS ANGELES.....5203 Santa Fe Ave.
MINNEAPOLIS....410 Third Ave., North
NEW YORK....416 West Thirteenth St
PHILADELPHIA..429 North Seventh St.
PITTSBURGH.....16 Terminal Way
ST. LOUIS.....1009 Spruce St.
SALT LAKE CITY
360 West 2nd South St.
SEATTLE.....1508 Fourth Ave., South

Special service divisions are also maintained at the following works of the Company: Erie, Pa.; Ft. Wayne, Ind.; Oakland, Calif.; Pittsfield, Mass.; Schenectady, N. Y., and West Lynn, Mass.—River Works and West Lynn Works.

Distributors for the General Electric Company Outside of the United States and Canada

INTERNATIONAL GENERAL ELECTRIC COMPANY, INC.
New York, N. Y., 120 Broadway — General Sales Offices, Schenectady, N. Y.

Foreign Offices, Associated Companies or Agents in Principal Cities of the World

G-E Sales Channels

The General Electric Company has established sales offices at convenient points for the extension of service for its customers and to those interested in its products.

G-E products are marketed by: (1) Direct sales to purchaser. (2) Sales through distributing jobbers. (3) Sales through allied companies and other manufacturers of appliances. (4) Sales through dealers.

G-E merchandise distributors are located in all large cities (see list on page 62), and G-E warehouses conveniently located insure prompt shipments.

G-E motor dealers (headquarters for motors and repair service) are located in every city and large town.

It is possible to obtain through these channels every kind of apparatus, machinery, device or material necessary for the generation, transmission and utilization of electrical energy with the exception of telephone and similar equipment.

Scope of G-E Service

In the conception, design, manufacture and sale of equipment for the generation, distribution, and control of electricity the General Electric Company has maintained a leading position. Its vast shops are backed by technical laboratories, manned by scientists and electrical and mechanical experts of the highest standing in the industry. Its products can be depended upon for the complete fulfillment of their purpose with the highest degree of satisfaction. Moreover, the advice of G-E representatives carries the authenticity of scientific correctness, backed by facts, and proved by practical application in the laboratory and field.

Any information required pertaining to the application of electricity and electrical equipment may be had by addressing the nearest G-E Sales Office—complete information on any problem or equipment is always available in the form of personal advice or literature.

Service Shops

No matter in what part of the United States electrical repairs may be required, rail or truck will take your apparatus to a General Electric Service Shop generally within a day. If repairs must be made at place of installation, a force of General Electric service men can be sent quickly from one of the 23 service headquarters of the company. This National service is more than a convenience. Prompt repairs will reduce costly shutdown.

G-E Descriptive Bulletins

Many G-E bulletins are available for the purpose of assisting in the proper selection, operation and maintenance of G-E equipment.

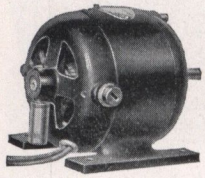
Bulletins will be sent to those desiring further information, upon request at the nearest G-E Sales Office.

FRACTIONAL HORSEPOWER MOTORS

The General Electric Company has made a very extensive study of the problems of electric motor applications to small portable tools, household appliances and other machines, which has resulted in the development of a complete line of fractional horsepower motors so designed as to be suitable to meet the needs of such applications.

The application of G-E fractional horsepower motors is vastly increased by their ability to perform efficiently the work to which they are assigned with the minimum care and attention and by the fact that although built as small as 1/200 hp., they embody the same quality of material and accuracy of construction as the larger G-E motors.

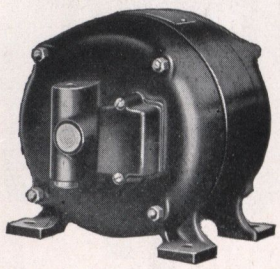
Type SDA Series Wound D-c. and 60-Cycle A-c. Motors—A line of small motors built in ratings from 1/200 to 1/15 hp. inclusive, having a full load speed of 2200 r.p.m. on the smaller and 1800 r.p.m. on the larger ratings, and may be furnished for operating on 110-volt or 220-volt 60-cycle a-c. and d-c. circuits. They are open type construction, having feet cast integral with main frame casting and have 18-in. leads brought out through rubber bushing in commutator end. Corresponding ratings of a-c. and d-c. have interchangeable mounting dimensions. Direction of rotation may be reversed by interchanging leads to brushholders. V-grooved pulleys suitable for round belts may be furnished should they be desired.



Type SDA Fractional Horsepower Motor

Type SA Single-phase Constant Speed Induction Motors—Built in a protected type design equipped with waste-packed bearings and having the primary winding on the rotor, the secondary or squirrel cage winding being stationary. They have 150% (50% overload) starting torque with approximately 200% full load torque and may be furnished rated from 1/30 to ¼ hp. inclusive, suitable for operating on 110 and 220-volt, 60, 50, 40, 30 and 25-cycle circuits at full load speed of 1725, 1425, 1140, 1725 and 1425 r.p.m. respectively. Type SA motors have all important external dimensions agreeing with the Type SD d-c. motors (listed on this page) of corresponding ratings, making them especially adapted for use of manufacturers of machinery direct connected where interchangeability is a desirable feature. Direction of rotation may be reversed by removing collector end flange and interchanging two leads to rotor.

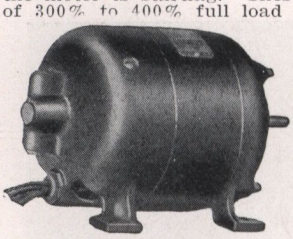
They may be furnished rated 1/12, ⅛, or 1/6 hp., suitable for operating on 110 and 220-volt 60-cycle circuits at full load speed of 1140 r.p.m.



Type SA Fractional Horsepower Motor

Type RSA A-c. Repulsion Start Induction Single-phase Motors—Constant speed, high starting torque motors which start as repulsion motors and at a predetermined speed, a centrifugal device short circuits the commutator and the motors then run as induction motors. The brushes are fixed, that is, they are not lifted from the commutator but carry current only when the motor is starting. These motors have a starting torque of 300% to 400% full load torque and a maximum running torque of 200% full load torque, which makes them especially suited for such applications as pumps, compressors, coffee mills, meat grinders, etc., where a very high starting and maximum torque with low starting current are required.

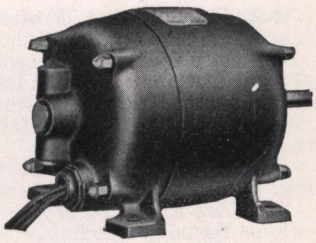
Type RSA motors may be operated on 110 or 220-volt circuits by suitably grouping the external connections of the four external leads and may be furnished in ratings of ⅛ to ¾ hp. inclusive for operating on 60-cycle circuits at a full load speed of 1725 r.p.m. and from 1/12 to ¾ hp. inclusive at full load speed of 1140 r.p.m. Corresponding ratings may be furnished to operate on 50, 40, 30 and 25-cycle circuits having full load speeds of 1425, 1140, 1725 and 1425 r.p.m. respectively.



Type RSA Fractional Horsepower Motor

Type RKT and RKQ 3-phase and 2-phase Constant Speed A-c. Squirrel Cage Motors—Meet the demand for fractional horsepower motors for service on polyphase circuits. They have waste-packed bearings and closely resemble the RSA line in general appearance and external construction. Direction of rotation is wholly dependent upon their connections to source of power. To reverse direction of rotation on Type RKQ motors, interchange the external connections of one phase only. The Type RKT motor may be reversed by interchanging any two of three external leads. They may be furnished in ratings from ¼ to ¾ hp. inclusive for operating on 110-volt and 220-volt, 60-cycle a-c. circuits at a full load speed of 1725 r.p.m., and 1/6 to ¾ hp. inclusive for operating on above circuits at full load speed of 1140 r.p.m.

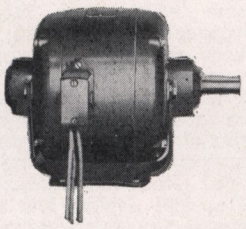
Corresponding ratings may be furnished for operating on 50, 40, 30 and 25-cycle circuits having full load speed of 1425, 1140, 1725 and 1425 r.p.m. respectively.



Type RKT Fractional Horsepower Motor

The above ratings may be furnished for operating on 440 and 550-volt a-c. circuits.

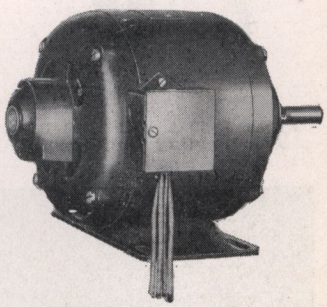
Type RKS, High-torque, Constant-speed, Single-phase Capacitor Motors—Designed to meet the exacting requirements of refrigerator and oil burner applications, these motors are suitable for any service where high starting, pull-up and maximum torques are required. Other desirable characteristics are exceptionally high efficiency and power factor, quiet operation, freedom from radio interference, maximum reliability and long life. Mechanical construction similar to polyphase motor having wound stator and squirrel-cage rotor with centrifugally operated switch. Available in ratings from 1/5 hp. to ¾ hp. for operation on 110 and 220 volts, 60, 50, 30 and 25 cycles.





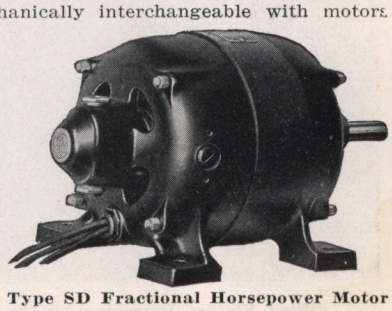
Type RKS Capacitor-Motor Unit

Type BKS Resistance Split-phase Motors—These motors have wound stator and squirrel-cage rotor with centrifugally operated switch. Intended primarily for use on those applications where motors must operate for long periods of time and where high efficiency and power factor, quiet operation, freedom from radio interference and maximum reliability are essential. All ratings 1/6 hp. six-pole and below have starting torque of approximately 175% and pull up to and maximum torques of approximately 225% of full load torque. Due to starting current limitations the ¼-hp. ratings have relatively lower torque values. Available in ratings from 1/40 hp. to ¼ hp. for operation on 110 and 220 volts, 60, 50, 30 and 25 cycles.



Type BKS Fractional Horsepower Motor

Type SD Constant Speed D-c. Motors—Have waste-packed bearings and are mechanically interchangeable with motors of corresponding ratings of the SA and RSA single-phase a-c. line (described on this page); and are similar in design and performance. Furnished shunt wound in 1/30 and 1/20 hp. sizes only, operating on 110 and 220-volt d-c. circuits at full load speed of 1725 r.p.m., and compound wound



Type SD Fractional Horsepower Motor

(Continued on Next Page)

in ⅛ to ¾ hp. sizes inclusive for operating 32, 115 and 220-volt d-c. circuits at full load speed of 1725 r.p.m. May also be furnished in 1/12 to ¾ hp. sizes inclusive for operating on above circuits at full load speed of 1140 r.p.m.

The compound-wound motors ½ hp. and below have starting torque of 300% to 400% of full load running torque (when operated without starting rheostats) with 400% to 500% full load starting currents.

Special Design Motors and Motor Parts—In addition to the standard lines of fractional-horse power motors described, the General Electric Company is prepared to furnish special motors in these types by modifying the electrical characteristics or mechanical construction to meet the requirements of special machines.

Motor parts of standard or special design may also be furnished to be assembled by the appliance manufacturer, in the motor housing which is an integral part of the complete machines, such as portable drills, valve grinders, vacuum cleaners, screw drivers, portable saws, etc.

NOVALUX FLOODLIGHTING PROJECTORS

G-E Floodlighting Projectors embody many advantages for efficient floodlighting, including:

(1) Only four sizes of casings, necessary for all types of light distributions with lamps from 200 to 1500 watts, either general service or floodlighting types.

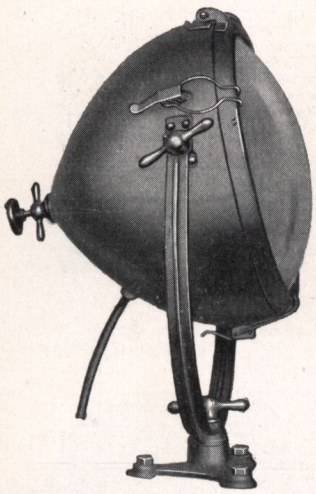
(2) All casings of non-ferrous metal. All parts non-rusting.

(3) Excellent heat radiation due to non-ferrous casing, permitting small dimensions.

(4) Ease and accuracy in focusing through the use of unique focusing mechanisms.

(5) All units totally enclosed, thereby preventing dust and dirt from entering and impairing efficiency.

(6) The following lenses are available—clear lenses with plain, lightly stippled, heavily stippled, or spread-light distribution; colored lenses giving plain and heavily stippled distribution. All clear lenses are heat-resisting glass. All colored lenses are of semi-heat-resisting glass.



Types L-30-A and L-31-B Floodlighting Projector

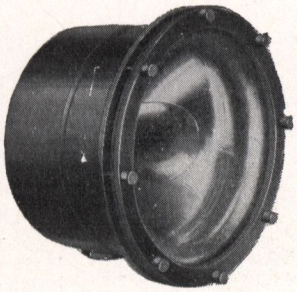
(7) All reflectors are of glass, silver plated, and protected by copper backing. Reflectors of the same size are interchangeable. The use of glass reflectors provides the most efficient type of projector available. They are much more efficient than aluminum or chromium-plated reflector units.

(8) Glass lens differing in optical design but arranged for interchangeable mounting in the projectors if used in conjunction with the properly designed reflector permit 100% control of the light beam, which is not possible unless there is a glass lens in front of the projectors.

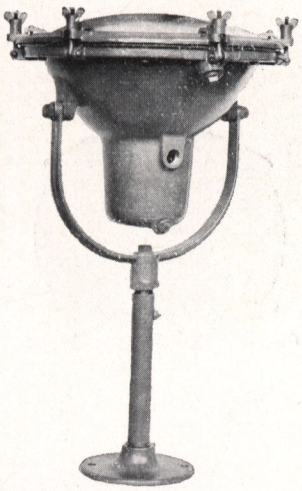
(9) The construction design of the totally enclosed type of unit permits mounting wherever space is available. If space is available near the area to be illuminated, a certain wide angle type of lens is available, but if space does not permit, these projectors may be mounted further back and provided with lens that do not have quite the wide angle spread.

Floodlighting of Filling Stations—The General Electric Company has developed floodlighting projectors and large-area units that are drawing business to filling stations all across the country. G-E specialists can adapt these to the special requirements of your building, equipment and location. Address the nearest G-E office.

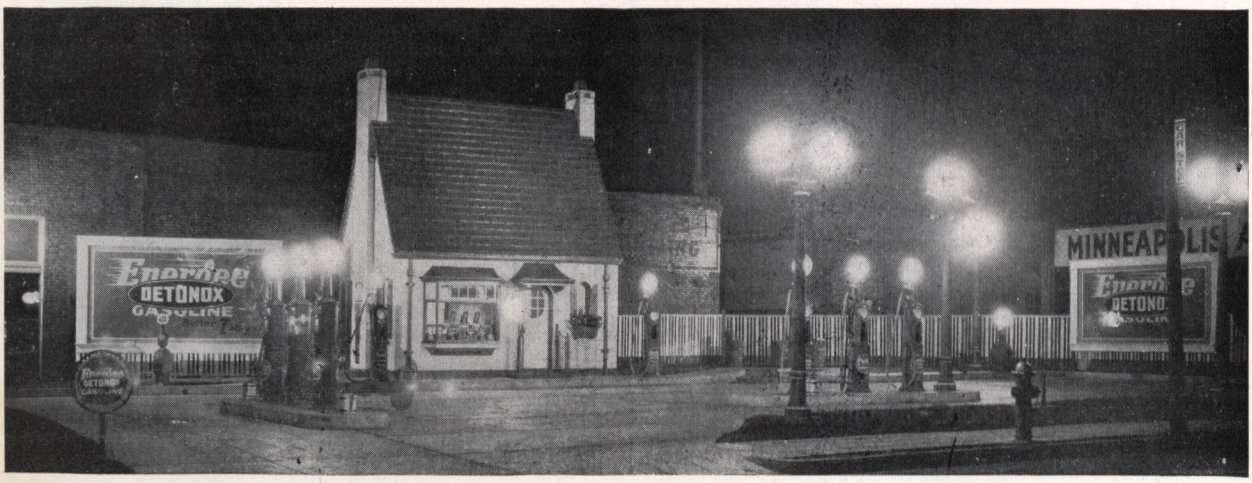
Submersible Floodlights for Underwater Lighting of Swimming Pools, Fountains, Etc.—Complete devices for the under-water lighting of swimming pools, fountains, etc., is available. The two illustrations are examples of the units. A complete line of electric illuminating fountains in sizes from 7 to 63 projectors, are available in standard packages consisting of projectors, water sprays, pumps, flashers, etc.



Type L-33 Submersible Floodlight for Swimming Pools



Type L-23 Submersible Fountain Type Floodlight



Filling Station Illuminated with G-E Novalux Units and Floodlighting Projectors Mounted on Union Metal Poles

G-E AUTOMATIC TIME SWITCHES—TYPES T-8C AND T-9

Telechron-motor-operated, for use on alternating-current circuits with regulated frequency.

Accurate—reliable—no winding.

Types T-8C and T-9 switches are designed for the automatic control of electrical circuits. They will close, and, later, open their circuits at any predetermined time for which the hands on the dial may be set. They will continue to do this day after day, the year through, without winding, regulating, oiling, or other attention. They are admirably adapted for the control of show-window lights, electric signs, illuminated poster advertising boards, protective lights and many industrial applications.

There are two types—the T-8C, a small 15-amp. switch intended for interior application, with a 1/16-in. sheet metal housing finished in black and provided with knock-outs; and the T-9, a 20-amp. switch in a substantial weatherproof case with lock and key, intended for both outdoor and indoor application.

Where it is required to handle larger values of current, either type of switch can be used in combination with a magnetic switch or contactor.

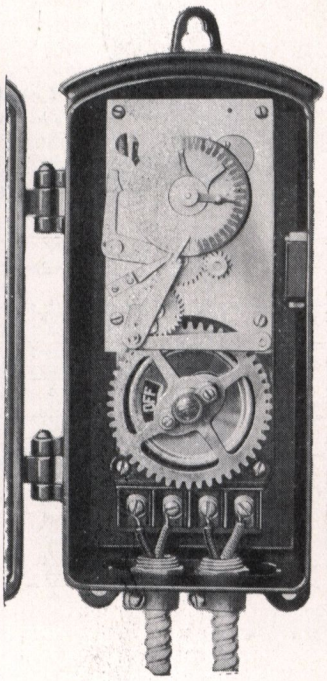
These time switches are unique in that the time-keeping and propelling member is the Warren synchronous motor (a Telechron product). The motor keeps accurate time and moreover provides ample power to operate the switch.

Type T-9 is equipped with a 20-amp. 250-volt double-pole, double-break snap switch. It can also be supplied with a 3-way (single-pole double-throw) snap switch. The catalog numbers differ for the various voltage and frequency ratings of the timing motor.

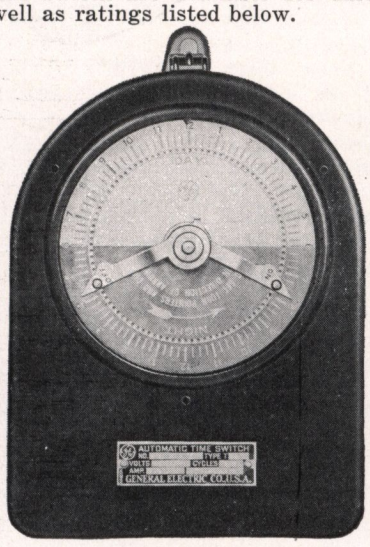
Type T-8C is equipped with a single-pole, silver-tipped quick-make and quick-break contactor consisting of brushes that bear upon cams. Various modifications of this switch are available for different duty periods as well as ratings listed below.



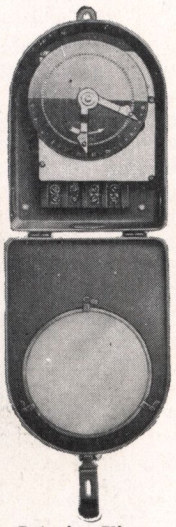
Type T-9
Automatic Time Switch



Interior View
Type T-9
Automatic Time Switch



Type T-8C
Automatic Time Switch



Interior View
Type T-8C
Automatic Time Switch

TYPE T-8C AUTOMATIC TIME SWITCHES—INDOOR SERVICE

*15 Amperes, 115 Volts; 7.5 Amperes, 230 Volts; Single-pole

Type	Time cycle	Volts	Cat. No. 60 cycles	Cat. No. 50 cycles	Cat. No. 25 cycles	Price	Wt., lb. Net	Wt., lb. Shipp.
T-8C1	0–15 hours "on"	115	34 x 979	34 x 980	34 x 981	$22.00	6	8
		230	34 x 982	34 x 983	34 x 984	23.00	6	8
*T-8C3	5–16 hours "on" with 2-way switch	115	34 x 985	34 x 986	34 x 987	23.00	6	8
		230	34 x 988	34 x 989	34 x 990	24.00	6	8
T-8C4	9–24 hours "on"	115	34 x 991	34 x 992	34 x 993	22.00	6	8
		230	34 x 994	34 x 995	34 x 996	23.00	6	8

* Type T-8C3 is rated 10 amperes, 115 volts; 5 amperes, 230 volts.

TYPE T-9 AUTOMATIC TIME SWITCHES—OUTDOOR OR INDOOR SERVICE

20 Amperes, Double-pole, Double-break

Circuit rating Volts	Circuit rating Cycles	Amp.	Cat. No. Without cutout	List price, Class T	Cat. No. With cutout†	List price, Class T	Approx. wt., lb. Net	Approx. wt., lb. Shipp.
115	60	20	10 x 637	$40.00	10 x 645	$44.00	13	25
230	60	20	10 x 638	41.00	10 x 646	45.00	13	25
115	50	20	10 x 639	40.00	10 x 647	44.00	13	25
230	50	20	10 x 640	41.00	10 x 648	45.00	13	25
115	40	20	10 x 641	$40.00	10 x 649	$44.00	13	25
230	40	20	10 x 642	41.00	10 x 650	45.00	13	25
115	25	20	10 x 643	40.00	10 x 651	44.00	13	25
230	25	20	10 x 644	41.00	10 x 652	45.00	13	25

† This is an attachment to cause the switch to skip its normal cycle of operations on any desired day; for instance, a Sunday or holiday.

T-9 time switch can be furnished with a special dial construction having four adjustable hands on the dial for four switching operations daily. Price $1.00 (Class T) extra.

Type T-9 time switch can be furnished with a special snap switch, Cat. No. GE922, which is a single-pole, double-throw switch (sometimes called a 3-way switch) at no increase in price.

Type T-9 time switch can be supplied with various special snap switches for controlling two or three circuits. Price on application.

Janette Manufacturing Company

556-558 West Monroe Street
CHICAGO, ILL.

NEW YORK, N. Y....Singer Building, 149 Broadway PHILADELPHIA, PA....Real Estate Trust Building
REPRESENTATIVES IN PRINCIPAL CITIES

Products

Motor-Driven Speed Reducers.
Motors.
Motor Generators.
Also, Rotary Converters, Air Compressors, Hot Water Circulating Pumps and Motorized Blowers.

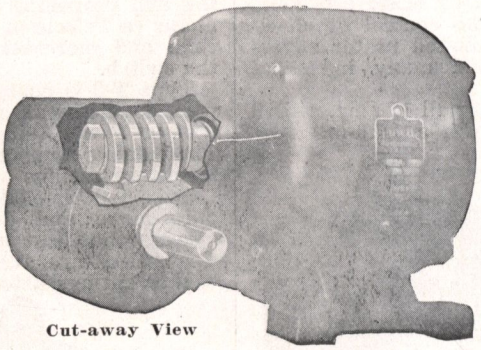
Standard Worm and Gear Speed Reducers

Worm-gear Assembly—A quiet, smooth-running, durably built unit with high grade steel worm and bronze gear. Gear reductions in specification table have been adopted as standard on Janette Motor Driven Speed Reducers. Special reductions also furnished.

Motors—Reducers are equipped with Janette Ball Bearing Motors exclusively. In addition to motors of standard 110-volt, 60-cycle winding, special motors are also obtainable wound for odd voltages and frequencies, as well as for 2 or 3-phase alternative current. Also direct current.

Shafts — Painstaking exactness in grinding shafts has long been a predominant feature in the manufacture of Janette Motors, and this feature has been carried on in the Janette Speed Reducer. Both motor shaft and counter shaft are ground to remarkable precision and both are made of high grade special steel.

Orders should specify from which side of gear box countershaft should project, looking at rear of speed reducer. Also, specify direction of countershaft rotation, whether clockwise or counter-clockwise looking at end of countershaft.



Cut-away View

SPECIFICATIONS

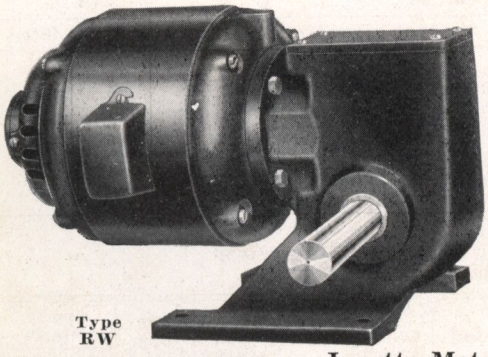
Type	Motor type	Ratio	Pitch of worm-gear	Motor r.p.m.	Counter-shaft r.p.m.	Motor hp.	Counter-shaft hp.	† Code
AW	SA-20	50 to 1	24	1750 1150	35 23	1/25 1/30	.03 .02	Arrow Ardit
AW	SA-20	44 to 1	22	1750 1150	40 26.1	1/20 1/25	.04 .03	Amend Amity
AW	SA-20	40 to 1	20	1750 1150	43 28.7	1/20 1/20	.045 .04	Alloy Argon
AW	SA-20	34 to 1	18	1750 1150	51.4 33.8	1/12 1/20	.05 .04	Altud Allah
SW	SS-18	48 to 1	16	1750 1150	46 30	1/10 1/20	.08 .04	Album Annul
SW	SS-18	32 to 1	14	1750 1150	54.5 36	1/8 1/10	.1 .08	Armor Arsen
SW	SS-16	26 to 1	12	1750 1150	67.3 44.2	1/6 1/8	.15 .1	Almon Akord
SW	SS-14	20 to 1	10	1150	57.5	1/6	.14	Artal
SW	*RS-14	20 to 1	10	1750	87.5	1/4	.225	Alfor
RW	*RS-16	36 to 1	12	1750	48.6	1/6	.145	Axman
RW	*RC-14	30 to 1	10	1750	58	1/4	.205	Adzer
RW	*RC-13	24 to 1	8	1750	73	1/3	.28	Ankor
RW-2	RC-14	70 to 1	12	1750	25	1/6	.145	
RW-2	RC-14	60 to 1	10	1750	29	1/4	.205	
RW-2	RC-13	50 to 1	8	1750	35	1/3	.28	

* Indicates 110/220 volt, 60-cycle repulsion-induction, single phase motor.
† Code words indicate machines wound for 110-volt, 60-cycle a-c. Use same code words plus voltage and frequency specifications when other windings are desired.

Lubrication—Gear box is filled with special grease and requires refilling not more than once every year. This grease also lubricates rear motor bearing as well as bronze counter-shaft bearings. Front motor bearing should be greased once or twice a year.

Specially Designed Speed Reducers

In addition to standard speed reducers listed in the table at the left, Special Janette Speed Reducers are also obtainable to fit the individual requirements of any appliance or machine. If particular problems of speed reduction or drive cannot be solved by a standard-design Janette Speed Reducer, our experienced staff of engineers will gladly work with you in developing a speed reducer best suited to your needs.



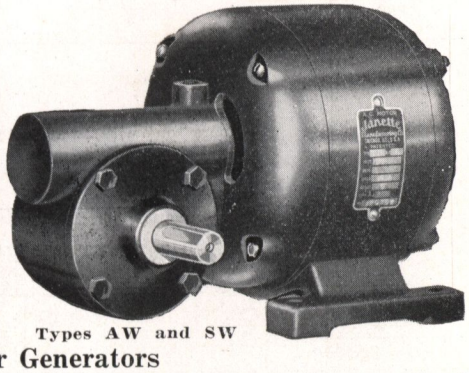
Type RW

Types of Speed Reducers

Types AW and SW—Amply well-built units for their designated horsepowers. Identical in appearance except in size.

Type RW—For heavy duty. Single phase motors are all of repulsion-induction type with high starting torque and low starting current. Available also with polyphase and direct-current motors.

Type RW-2—An extremely heavy duty unit available with ratios of 50-to-1 to 70-to-1 and equipped with motors of 1/6 to 1/3 hp. Information on request.



Types AW and SW

Janette Motorized Blowers and Motor Generators

Motorized Blowers—Janette Motorized Blowers are sirocco type units designed for large volumes of air at low static pressures. Quiet, well-balanced and durable. Used primarily for oil burners and forced draft coal burning domestic and small-industrial furnaces. Available with semi-enclosed or fully-enclosed motors in sizes up to 1/3 hp.

Motor Generators—Transform alternating current to direct current or direct current of one voltage to direct current of another voltage. Built in capacities from 60 to 2500 watts, and available with a primary current of any standard commercial voltage or frequency. Output voltages may be obtained of 32 to 250 volts. Direct-current special generators to suit individual requirements can also be provided, such as units with a direct current input and both a direct and alternating current output.

Janette Standard Motors—A.C. or D.C., 1/30 to 1/3 Hp.

Janette Standard Motors set a superior standard of performance at a cost which compares favorably with that of ordinary fractional-hp. motors.

Janette values are made available through standardization in design and manufacturing processes. D.C. motors are physically interchangeable with A.C. single, two or three-phase motors, having identical important dimensions, thus making substitutions possible without altering the gears or pulleys or the location of bolt holes.

Types SA (Split-phase) and DA (D.C. Compound-wound) Motors—Ideal for use where motors of small physical size are desired. Both types are physically interchangeable with each other.

Type SA is standard in 110 volts, 60 cycles, although windings for 25, 30, 40 and 50 cycles, as well as for 220 volts may be obtained. Type DA is for 115 volts D.C. Both types are made in 1/30, 1/20 and 1/15-hp. sizes, with full-load speeds from 1150 up to 3400 r.p.m.

Mounting feet are detachable. Motors can be furnished for vertical operation and with or without tripod. Reversing leads are furnished for both alternating and shunt-wound direct-current types.

Types RS and RC Repulsion-Induction Motors—Deliver high starting torque at low starting current, and are very effective in speedy pick-up under heavy loads. It can be stalled for long periods without injury. The short-circuiting device (see illustration) is exceptionally compact, positive and efficient.

"RC" motors conform to the latest N.E.M.A. regulations for efficiency, power-factor and apparent efficiency.

Standard in 110/220 volts, 60 cycles and available also with frequencies of 25, 30, 40 and 50 cycles; sizes from 1/15 to 1/3-hp., and speeds from 1150 to 3400 r.p.m.

"RS" frames have same mounting dimensions as, and are interchangeable with Types SS and DS frames (described below). "RC" dimensions somewhat larger. Mounting feet are detachable. Motors can be furnished for vertical operation and with or without tripod.

Type SS (Split-phase) and DS (D.C. Compound-wound) Motors—Ideal for driving fans, grinders and similar devices imposing a light starting load. Mounting dimensions are uniform with those of Type RS.

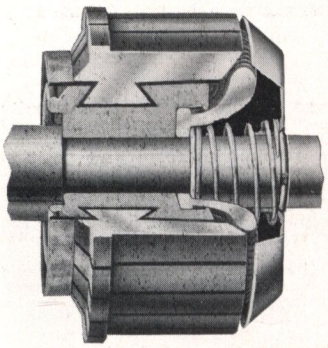
Type SS is single-phase with a centrifugal, automatic starting switch. The momentary overload capacity is high; the full-load constant speed is 95% of idle, synchronous speed. Standard in 110-volts, 60 cycles; 25, 30, 40 and 50 cycle windings obtainable; also 220 volts. Type DS has rugged brush-holders and large commutator with undercut mica insulation.

Both types are standard in 1/15 to 1/4-hp. sizes, at speeds from 1150 to 3400 r.p.m. Mounting feet are detachable. Motors can be furnished for vertical operation, and with or without tripod.

Types SB (Split-phase), RB (Repulsion-Induction), PB (Polyphase), and DB (D.C. Compound-wound Motors)—Have the same general design and characteristics as the above-described types, but are of larger dimensions and capacities. The mounting dimensions of all four types are uniform and interchangeable, and can be supplied for vertical mounting, and also with round bodies (no feet) upon order.

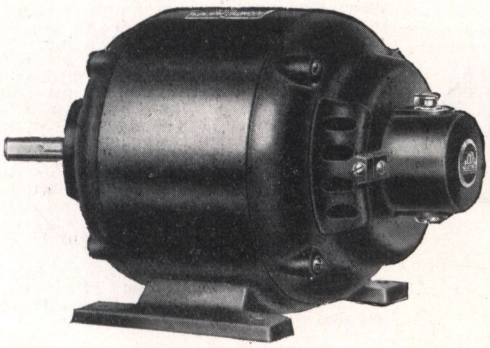
These motors are the correct drive for such appliances as flexible-shaft apparatus, ice machines, addressing machines, etc. The D.C. and repulsion-induction motors have rugged brush-holders and large commutators with undercut mica insulation.

All A.C. motors are standard for 60 cycles with 25, 30, 40 and 50 cycles also obtainable. "SB" motors are standard in 110 volts; "RB," in 110/220 volts and "PB" in 220 volts. Type DB is for 115 volts D. C. All types are furnished in 1/4 or 1/3-hp. sizes with speeds from 1150 to 3400 r.p.m.

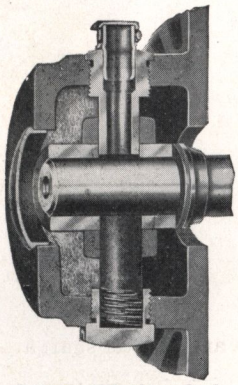


Repulsion-Induction Commutating and Short-circuiting Device

A patented Janette feature. A simple, positive device that unfailingly short-circuits the rotor windings at predetermined full speed.



Janette Standard Motor



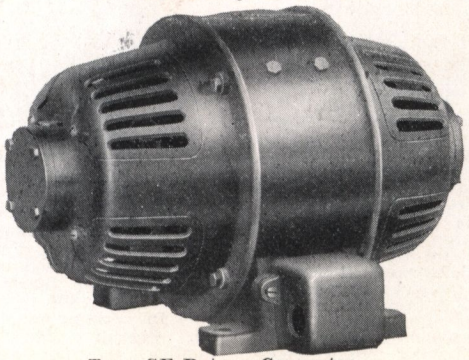
Janette Wool-packed Bearing

Enables Janette motors to run for months without re-oiling. Shaft runs in a dustproof oil case packed with pure lamb's wool saturated with oil fed from a reservoir.

Janette Rotary Converters

Rotary Converters for A. C. Radios, Talking Machines, Power Amplifiers and Talking Motion Picture Equipment.—There is a type of Janette rotary converter for every radio use, from small units designed for the individual radio set in the home to large units built to operate six or more radios at one time in large radio shops. Converters for radio use are built complete with a filtering device which effectively prevents any noise from the D.C. side of the converter from entering the radio set. The smaller converters require no starter; on the larger sizes, either a hand or automatic starter can be furnished. Sizes range from .125 kv-a. to 2 kv-a.

Converters for talking machines do not have the filtering device. Sizes range from .175 kv-a. to 2 kv-a.



Type CF Rotary Converter

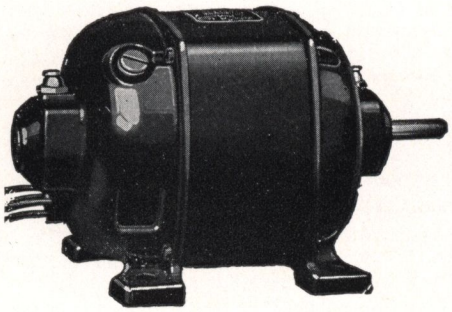
Rotary Converters for Neon Tube Signs.—The Janette line of Neon sign rotary converters includes heavy-duty 1800-r.p.m., 4-pole units for the continuous operation of Neon tube signs in capacities of ½ kv-a. to 7½ kv-a. as well as small, 3600-r.p.m., 2-pole units in capacities of ⅛ and ¼ kv-a. All Janette converters are ruggedly built for continuous trouble-free operation. All 1800-r.p.m. machines are ball bearing units, "double-wound," steel-framed and equipped with laminated steel pole pieces.

These converters provide an output of 110-volt, 60-cycle alternating current, single or three phase. Available for 115 or 230-volt direct-current primaries.

THE LELAND ELECTRIC COMPANY

DAYTON, OHIO

Durability, dependability and quiet running have long been three outstanding characteristics of Leland Motors. These three essentials have, perhaps, done more than any others to establish for Leland Motors, world-wide reputation.

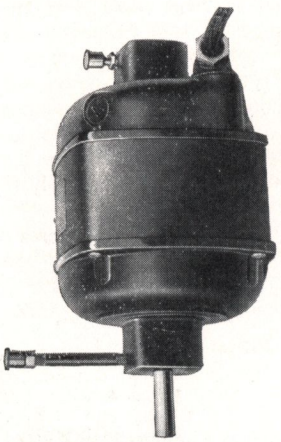


Leland "Type A" Sleeve-bearing Motors

Characterized by durability and dependability, represented by a compact design, attractive in appearance, cool in operation and ability to stand up under abnormal load conditions. Design features—A circulating, filtering, lubrication system which slowly circulates the oil in the waste packed bearing supplying clean filtered oil to the bearings at all times. Prime wool of best quality, saturated with fluid oil is used. Circulation is continuous, and oil is filtered after each trip to the bearing.

May be operated in normal position, inverted, or with left or right wall mounting, but not vertical. Brush-riding type, employing a cartridge brush in fixed position to provide positive starting torque of approximately four times full load rating. Brushes are the most durable known, so insulated that in the single-phase repulsion-induction design straight current cannot pass through the bearing.

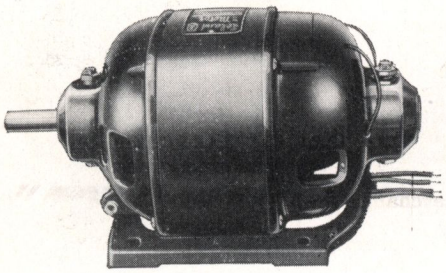
Recommended for general application requiring long life, quiet operation and durability in adverse conditions. These motors require very little attention.



Vapor-resisting Motors for Gasoline Pump and Use in Hazardous Atmospheres

Sleeve and ball bearing designs. Sleeve-bearing motors designed for belt or chain drive and direct horizontal connection. Ball-bearing motors provide for end thrust of shaft when used for direct vertical drive and occasional use in certain horizontal belt and chain drives.

Several distinctive safety features are incorporated in addition to those specified by the Underwriters. For instance, the insulated brushes prevent circulation of stray current through end casings and motor bearings, eliminates jumping of sparks and hazard of exploding fumes, also prevents frozen bearings and burnt-out motors, a frequent result of the destructive carbonization of lubricating oil due to arcing. Short circuiting device effectively absorbs the heat of the arc which may be formed, preventing oxidation and melting of copper contacts so destructive to the usual forms of these devices. These motors are unsurpassed in their ability to stand up under the extreme service of constantly starting and stopping.



Refrigerator and Oil Burner Motors

Increased quietness is accomplished in these motors by a concentrically assembled endless garter spring mounted between hub of bearing housing and outer race support in much the same manner as balls are carried between inner and outer race of a ball bearing. This spring retains its form and position against belt pull, weight, and other forms of thrust. Two spiral wound compression springs, located on either side of end bell, take abnormal starting torque in a resilient manner, returning motor position to normal after force of starting torque has been spent. Motor supported concentrically by the spiral wound endless garter spring, and also prevented from rotating in cradle mounting by compression springs.

There is no rigid direct mounting between the working elements (between wound rotor, stator, bearing, etc., and the base on which the motor rests). All tendency towards noise is isolated within the frame proper and is not transmitted to the base. There are no materials used that are subject to distortion, compression, solution under action of oil, or hardening due to heat. The so-called 60-cycle hum (magnetic hum) within the laminated structure is eliminated.

A reliable new brush-lifting mechanism of unusual simplicity is mounted directly on commutator end of motor.

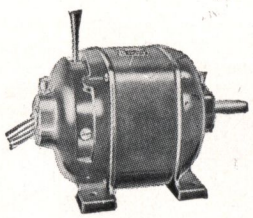
These motors have demonstrated their merits by use—practically no service required.

Electric Reversible Motors

Built in all standard frames. Reversal accomplished by double-throw single-pole switch. Three leads to motor. For electric hoists, garage doors, escalators, and similar devices for essentially intermittent service. Can be built for continuous service by increasing frame size for ratings. Especially reliable under extreme load.

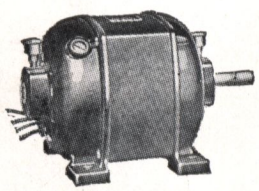
Generator and Alternator Sets

Three-bearing construction. Flexible connection between motor and generator—no troubles due to long suspension between bearings as in 2-bearing design. Generator ratings, 1/20 to ¾ kw.; alternators in corresponding volt-ampere ratings.



Ball Bearing Motors

Duplicate of Type A above except ball bearing instead of sleeve. Used to meet special conditions, as where mounting space is limited, where provision for end thrust is necessary, and for vertical installations. Compact; rugged; reliable. Bearings mounted in leak-proof housings. Small stocks at principal distributing points. Larger requirements to order.



Variable Speed Motors

Special frame brush shifting motors. Extensively used on automotive test stands, on printing press applications, etc. Brushes dependable. Thousands of such motors in use for years. Speed variable from 600 to 3000 r.p.m. Available in ratings from ⅛ to 1 hp. Complete description of application must accompany inquiry or order.

D.C. Motors for Oil Burners, Radios, Etc.

D.C. Motors with inverted rotary connections. Meeting growing demand. Leland has provided single-phase slip-ring connection which will temporarily supply alternating current on motors used primarily for oil burner drive. However, if mechanical power and current delivery are both used, total load must not exceed equivalent rating of the frame. Suitable also for supplying continuous A.C. when mechanical power is not required.

A.C. ratings always on volt-ampere basis and full advice should accompany inquiry as to continuity and nature of service required.

Supply complete details with inquiry.

MASTER ELECTRIC COMPANY

A Complete Line of Motors to Meet Any Current Specifications
Interchangeable Frames—1/20 to 10 H. P.

DAYTON, OHIO

Master Sales Offices and Branches

CHICAGO, ILL. . . . . 1500 South Western Ave.
GRAND RAPIDS, MICH. . . . . 130 Grandville Ave., S. W.
NEW YORK, N. Y. . . . . 667 Washington St.
ROCHESTER, N. Y. . . . . 82 St. Paul St., Case Bldg.
PHILADELPHIA, PA. . . . . 620 South Delaware Ave.
ST. PAUL, MINN. . . . . 1206 Pioneer Bldg.
SAN FRANCISCO, CALIF. . . . . 607 Call Bldg.
TORONTO, ONT., CANADA . . . . . 45 Richmond St., West

General Types

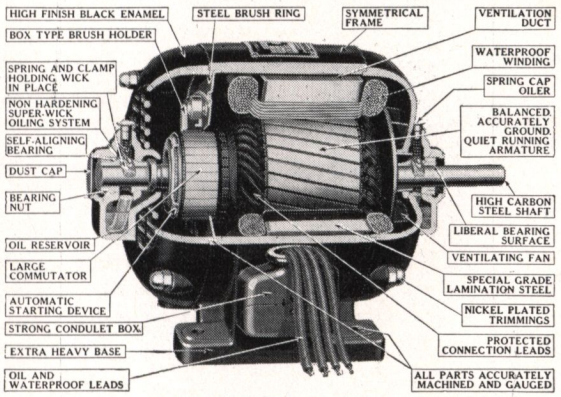
Master Guaranteed Motors are regularly made in the following types:

Type RA—Single-phase, repulsion-induction type motor. Furnished for 110-220 or 220-440 volts (interchangeable voltage), 25, 30, 40, 50 and 60 cycle a-c. in sizes from ⅛ to 5 H. P.

Type PA — 2 or 3-phase, squirrel-cage induction type motor. Furnished for 110, 220, 440 or 550 volts, 25, 30, 40, 50 and 60 cycle a-c. in sizes from ⅛ to 10 H. P.

Type SA — Single-phase, split-phase starting type motor. Furnished in 1/20 to ¼ H. P. sizes only, 110 or 220 volts, 25, 30, 50 and 60 cycle a-c.

MASTER GUARANTEED MOTORS



Constructional Advantages of Master Guaranteed Motors
The above illustration shows a ¼ H. P., Type RA, Master Super-wick Motor sawed in such a way as to bare the design and construction details.

Type DM — DC., compound-wound type. Furnished in sizes from 1/20 to 5 H. P. for 32, 115 and 230 volts.

Types for Special Applications

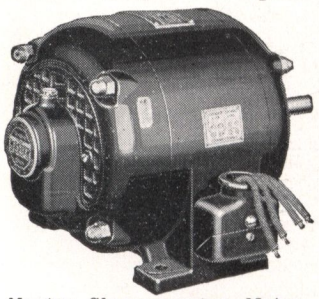
These include vertical shaft, electrically and mechanically reversible, vaporproof, special duty, round body and square frame motors, also d-c. generators.

Engineering Service

Our research department and staff of engineers are at the service of motor buyers. Let Master engineers solve your motor problems.

Master Sleeve-bearing Motors

Master Sleeve-bearing Motors of the super-wick type are very compact and are equipped with large phosphor-bronze, self-aligning, broached bearings. Interchangeable frames. Single, 2 or 3-phase or d-c. types of same horsepower rating and speed will fit upon same motor base. Bearings are sealed against dust or dirt, and are lubricated by special, long, non-hardening wicks held against shaft by a light spring tension, thereby giving positive assurance of proper circulation of filtered oil to shaft at all times. Need oiling only once a year. Mirror black enamel finish that will not chip. Nickelplated trimmings are used.

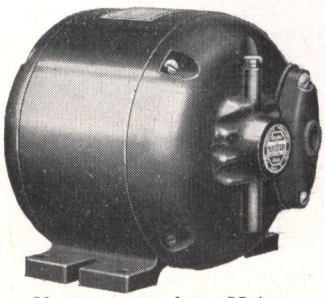


Master Sleeve-bearing Motor
Built in all Master Types ⅛ to 1 H. P.

Master Split-phase Motors

Master Split-phase Motors are better because:

1. Of rugged construction—built for hard service.
2. Both end covers are detachable.
3. They have an improved centrifugal cut-out switch.
4. Pleasing appearance — a hard mirror black enamel finish that will not chip.
5. They have self-aligning sleeve bearings.
6. Wick lubrication — needs oiling only once a year.
7. Quiet running.
8. Bearings can be removed without taking off end covers.

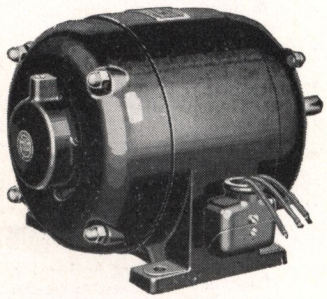


Master Split-phase Motor
Can be supplied with cord and plug

Master Ball-bearing Motors

These motors have large, oversize ball-bearings that seldom need replacement. Bearing is mounted in such a way that it is possible to remove end cover without disturbing the relationship of inner and outer ball-bearing race. This construction has a distinct advantage over other ball-bearing motors, especially in added accessibility to the windings for cleaning and repairs.

Frames are interchangeable as in the case of Master sleeve-bearing motors. Bearings are grease lubricated and do not require frequent attention.



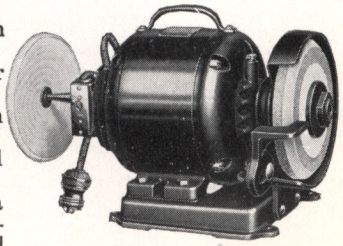
Master Ball-bearing Motor
Built in all Master Types 1½ to 10 H. P.

Master Motor-Grinder and Buffer

Complete motor-grinder consists of the following:

Standard ¼ H. P. Type SA or DM (as ordered) 1725 r.p.m. **Master Motor.**
Combination pulley and adapter.
Grinding wheel, 6x¾ in.
Wheel guard.
Adjustable tool rest.
Motor base.
Switch (mounted on motor).
10 ft. of twin conductor cord and plug.
Handle (mounted on motor).
Rag buffing wheel (easily removed).

Unit can be used as a motor to drive small machine or for grinding and buffing.



Master Motor-Grinder

Westinghouse Electric & Manufacturing Co.

EAST PITTSBURGH, PA.

Westinghouse Sales Offices

ABILENE, KAN., 300 N. Cedar St.
ABILENE, TEX., 774 Butternut St.
AKRON, OHIO, 7 S. Main St.
ALBANY, N. Y., 90 State St.
†*ATLANTA, GA., 426 Marietta St.
BAKERSFIELD, CALIF., 2224 San Emedio St.
†BALTIMORE, MD., 39 W. Lexington St.
BEAUMONT, TEX., 1245 Threadneedle Ave.
BIRMINGHAM, ALA., 2030 Second Ave.
BLUEFIELD, W. VA., 525 Bland St.
†*BOSTON, MASS., 10 High St.
†*BRIDGEPORT, CONN., Bruce Ave. & Seymour St.
†*BUFFALO, N. Y., 814 Ellicott Sq.
BURLINGTON, IOWA, 320 N. Third St.
*BUTTE, MONT., 52 East Broadway
CANTON, OHIO, 120 Tuscarawas St.
CEDAR RAPIDS, IOWA, 1400 Second Ave.
†CHARLESTON, W. VA., 101 Capitol St.
*CHARLOTTE, N. C., 210 East Sixth St.
CHATTANOOGA, TENN., 536-540 Market St.
†*CHICAGO, ILL., 20 N. Wacker Drive
†*CINCINNATI, OHIO, 207 W. Third St.
†*CLEVELAND, OHIO, 2209 Ashland Rd., S. E.
COLUMBUS, OHIO, 209 S. Third St.
*DALLAS, TEX., 108-116 S. Akard St.
DAVENPORT, IOWA, 206 Second St.
DAYTON, OHIO, 30 Main St., N.
†*DENVER, COLO., 910 Fifteenth St.
DES MOINES, IOWA, 604 Locust St.
†*DETROIT, MICH., 5757 Trumbull Ave.
DULUTH, MINN., 408 Bradley Bldg.
ELMIRA, N. Y., 338-342 E. Water St.
*EL PASO, TEX., Oregon and Mills St.
EMERYVILLE, CALIF., 5815 Peladeau St.
ERIE, PA., Tenth and State Sts.
EVANSVILLE, IND., 14-16 N. W. Sixth St.
†FAIRMONT, W. VA., 602 Cleveland Ave.
FERGUS FALLS, MINN., Kadatz Hotel
FT. WAYNE, IND., 1010 Packard Ave.
FORT WORTH, TEX., 2426 Tierney Rd.
GARY, IND., 1514 W. Fifth Ave.
GRAND RAPIDS, MICH., 507 Monroe Ave., N. W.
HAMMOND, IND., 151 Waltham St.
†*HOUSTON, TEX., Main St. and Congress Ave.
†*HUNTINGTON, W. VA., 209 Ninth St.
†INDIANAPOLIS, IND., 20 N. Meridian St.
JACKSON, MICH., 212 W. Michigan Ave.
JACKSON, MISS., 519 Hemlock St.
JACKSONVILLE, FLA., 719 W. Forsyth St.
†JOHNSTOWN, PA., 47 Messenger St.
JOPLIN, MO., 420 School St.
†*KANSAS CITY, MO., 2124 Wyandotte St.
KNOXVILLE, TENN., 612 S. Gay St.
†*LOS ANGELES, CALIF., 420 S. San Pedro St.
LOUISVILLE, KY., 332 W. Broadway
MADISON, WIS., 508 Edgewood Ave.
MEMPHIS, TENN., 130 Madison Ave.
MIAMI, FLA., 25 S. S. Second Ave.
†MILWAUKEE, WIS., 425 E. Water St.
†*MINNEAPOLIS, MINN., 2303 Kennedy St., N. E.
NASHVILLE, TENN., 309 Fourth Ave., N.
NEWARK, N. J., 17-25 Acadamy St.
NEW HAVEN, CONN., 152 Temple St.
†*NEW ORLEANS, LA., 333 St. Charles St.
*NEW YORK, N. Y., 150 Broadway
NIAGARA FALLS, N. Y., 205 Falls St.
NORFOLK, VA., 300 Main St.
*OKLAHOMA CITY, OKLA., 130 W. Grand Ave.
OMAHA, NEB., 409 Seventeenth St., S.
PEORIA, ILL., 104 State St.
†*PHILADELPHIA, PA., 3001 Walnut St.
*PHOENIX, ARIZ., 11 W. Jefferson St.
PINE BLUFF, ARK., 1711 Linden St.
†*PITTSBURGH, PA., 310 Grant St.
PORTLAND, ME., 61 Woodford St.
*PORTLAND, ORE., 83 Sixth St.
†PROVIDENCE, R. I., 393 Harris Ave.
PUEBLO, COL., 2411 West St.
QUINCY, ILL., 506 Maine St.
RALEIGH, N. C., 803 N. Person St.
READING, PA., 438 Walnut St.
RICHMOND, VA., 700 E. Franklin St.
RIVERSIDE, CALIF., 176 Castle Reagh Pl.
ROCHESTER, N. Y., 89 East Ave.
ROCKFORD, ILL., 206 S. Main St.
SACRAMENTO, CALIF., 1107 Ninth St.
†*SALT LAKE CITY, UTAH, 10 W. First South St.
SAN DIEGO, CALIF., 863 Sixth St.
†*SAN FRANCISCO, CALIF., 1 Montgomery St.
SCOTTS BLUFF, NEB., 1819 Eighth Ave.
†*SEATTLE, WASH., 603 Stewart St.
SHREVEPORT, LA., 3540 Youree Drive
SIOUX CITY, IOWA, 2311 George St.
SOUTH BEND, IND., 107 E. Jefferson St.
SPOKANE, WASH., 428 Riverside Ave.
SPRINGFIELD, ILL., 130 Sixth St., S.
SPRINGFIELD, MASS., 395 Liberty St.
†*ST. LOUIS, MO., 411 N. Seventh St.
SYRACUSE, N. Y., 108 W. Jefferson St.
TACOMA, WASH., 1021 Pacific Ave.
*TAMPA, FLA., 417 Ellamae Ave.
TERRE HAUTE, IND., 701 Wabash Ave.
TEXARKANA, ARK., 503 E. Sixth St.
†TOLEDO, OHIO, 416-424 Madison Ave.
*TULSA, OKLA., 602 S. Main St.
†*UTICA, N. Y., 258 Genesee St.
WASHINGTON, D. C., 1434 New York Ave., N. W.
WATERLOO, IOWA, 305 West Fourth St.
WICHITA, KAN., 309 N. Rock Island St.
†WILKES-BARRE, PA., 267 N. Penna. Ave.
WILMINGTON, CALIF., 305½ Avalon Blvd.
WORCESTER, MASS., 54 Commercial St.
YOUNGSTOWN, OHIO, 16 Central Square
The Hawaiian Electric Co., Ltd., Honolulu, T. H., Agent.

*Warehouse also located in this city.

†Service shop also located in this city.

Westinghouse Agent-Jobbers

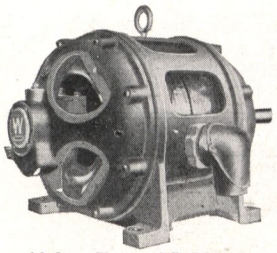
ABILENE, KAN., Union Electric Co.
AKRON, OHIO, Moock Elec. Supply Co.
ALBANY, N. Y., Westinghouse Elec. Sup. Co., Inc.
ALLENTOWN, PA., Westinghouse Elec. Sup. Co.
ATLANTA, GA., Gilham Electric Co.
BALTIMORE, MD., Westinghouse Elec. Sup. Co. of Pa.
BANGOR, ME., Wetmore-Savage Elec. Sup. Co.
BINGHAMTON, N. Y., Westinghouse Elec. Sup. Co., Inc.
BIRMINGHAM, ALA., Moore-Handley Hdw. Co.
BLUEFIELD, W. VA., Superior Supply Co.
BOSTON, MASS., Wetmore-Savage Elec. Sup. Co.
BROOKLYN, N. Y., Westinghouse Elec. Sup. Co., Inc.
BUFFALO, N. Y., McCarthy Bros. & Ford
BURLINGTON, VT., Wetmore-Savage Elec. Sup. Co.
BUTTE, MONT., Westinghouse Elec. Sup. Co.
CANTON, OHIO, The Moock Elec. Sup. Co.
CHARLOTTE, N. C., Westinghouse Electric Sup. Co.
CHATTANOOGA, TENN., Mills & Lupton Supply Co.
CHICAGO, ILL., Westinghouse Elec. Sup. Co., Inc.
CINCINNATI, OHIO, Johnson Elec. Sup. Co.
CLEVELAND, OHIO, Westinghouse Elec. Sup. Co.
COLUMBIA, S. C., Mann Electric Supply Co.
COLUMBUS, OHIO, The Hughes-Peters Elec. Corp.
DALLAS, TEX., Westinghouse Elec. Sup. Co.
DENVER, COLO., The Mine & Smelter Sup. Co.
DES MOINES, IA., Westinghouse Elec. Sup. Co., Inc.
DETROIT, MICH., Westinghouse Elec. Sup. Co.
DULUTH, MINN., Westinghouse Elec. Sup. Co., Inc.
ELMIRA, N. Y., Westinghouse Elec. Sup. Co.
EL PASO, TEX., The Mine & Smelter Supply Co.
ERIE, PA., Star Electrical Co.
EVANSVILLE, IND., Westinghouse Elec. Sup. Co.
FARGO, N. D., Westinghouse Elec. Sup. Co., Inc.
FLINT, MICH., Westinghouse Elec. Sup. Co.
GRAND RAPIDS, MICH., Westinghouse Elec. Sup. Co.
GREENSBORO, N. C., Carolina States Elec. Co.
GREENVILLE, S. C., Mann Electric Sup. Co.
HARLINGEN, TEX., Westinghouse Elec. Sup. Co.
HOUSTON, TEX., Westinghouse Elec. Sup. Co.
HUNTINGTON, W. VA., Banks-Miller Sup. Co.
INDIANAPOLIS, IND., Westinghouse Elec. Sup. Co.
JACKSONVILLE, FLA., Westinghouse Elec. Sup. Co.
JAMESTOWN, N. Y., Jamestown Electrical Supply Co.
KANSAS CITY, MO., Columbian Elecl. Co.
LONG-BEACH, CALIF., Westinghouse Elec. Sup. Co. of So. Calif.
LOS ANGELES, CALIF., Westinghouse Elec. Sup. Co. of So. Calif.
LOUISVILLE, KY., Tafel Electric Co.
MADISON, WIS., Westinghouse Elec. Sup. Co., Inc.
MASON CITY, IOWA, Westinghouse Elec. Sup. Co., Inc.
MEMPHIS, TENN., Westinghouse Elec. Sup. Co.
MIAMI, FLA., Westinghouse Elec. Sup. Co.
MILWAUKEE, WIS., Westinghouse Elec. Sup Co., Inc.
MINNEAPOLIS, MINN., Westinghouse Elec. Sup. Co., Inc.
NEWARK, N. J., Westinghouse Elec. Sup. Co., Inc.
NEW HAVEN, CONN., The Hessel & Hoppen Co.
NEW ORLEANS, LA., Electrical Supply Co.
NEW YORK, N. Y., Westinghouse Elec. Sup. Co., Inc.
NEW YORK, N. Y., Times Appliance Co., Inc.
OAKLAND, CALIF., Westinghouse Elec. Sup. Co. of Northern California.
OKLAHOMA CITY, OKLA., Westinghouse Elec. Sup. Co.
OMAHA, NEB., Westinghouse Elec. Sup. Co., Inc.
PEORIA, ILL., Westinghouse Elec. Sup. Co., Inc.
PHILADELPHIA, PA., Westinghouse Elec. Sup. Co. of Pa.
PHOENIX, ARIZ., Westinghouse Elec. Sup. Co. of So. Calif.
PITTSBURGH, PA., Iron City Electric Co.
POCATELLO, IDAHO, Inter-Mountain Elec. Co.
PORTLAND, ORE., Fobes Supply Co.
PROVIDENCE, R. I., Wetmore-Savage Electric Supply Co.
RALEIGH, N. C., North State Elec. Sup. Co.
READING, PA., Westinghouse Elec. Sup. Co. of Pa.
RICHMOND, VA., Tower-Binford Elec. & Mfg. Co.
ROCHESTER, N. Y., Westinghouse Elec. Supply Co.
ST. JOSEPH, MO., Columbian Electrical Co.
ST. LOUIS, MO., Westinghouse Elec. Sup. Co.
ST. PAUL, MINN., Westinghouse Elec. Sup. Co., Inc.
SALT LAKE CITY, UTAH, Inter-Mountain Electric Co.
SAN ANTONIO, TEX., Westinghouse Elec. Sup. C.
SAN FRANCISCO, CALIF., Westinghouse Elec. Sup. Co. of No. Calif.
SCRANTON, PA., Penn Elec'l Engineering Co.
SEATTLE, WASH., Fobes Supply Co.
SIOUX CITY, IOWA, Westinghouse Elec. Sup. Co., Inc.
SPOKANE, WASH., Westinghouse Elec. Sup. Co.
SPRINGFIELD, MASS., Wetmore-Savage Supply Co.
SYRACUSE, N. Y., Westinghouse Elec. Sup. Co., Inc.
TAMPA, FLA., Westinghouse Elec. Sup. Co.
TRENTON, N. J., Westinghouse Elec. Sup. Co.
TULSA, OKLA., Westinghouse Electric Sup. Co.
UTICA, N. Y., Westinghouse Elec. Sup. Co., Inc.
WASHINGTON, D. C., Westinghouse Elec. Sup. Co. of Pa.
WATERLOO, IOWA, Westinghouse Elec. Sup. Co., Inc.
WICHITA, KAN., United Elec. Co.
WILMINGTON, DEL., Westinghouse Elec. Sup. Co. of Pa.
WORCESTER, MASS., Wetmore-Savage Electric Supply Co.
YORK, PA., Westinghouse Elec. Supply of Pa.
YOUNGSTOWN, OHIO, The Moock Elec. Sup. Co.

MOTORS AND CONTROL, AND ARC WELDING

Alternating Current Motors

Type CS Motors—Built in all styles, sizes and ratings for every application for which a squirrel-cage motor is suitable. They are built for operation on 220, 440, 550 and 2200 volts, 2 or 3 phase, 25, 50 or 60 cycles. Open motors are rated at 40° C. rise on continuous operation. Characteristic Westinghouse motor features, such as dual-treated windings, directed ventilation, indestructible rotors and combination slot cell insulation, assure users of these motors the maximum in dependable operation.

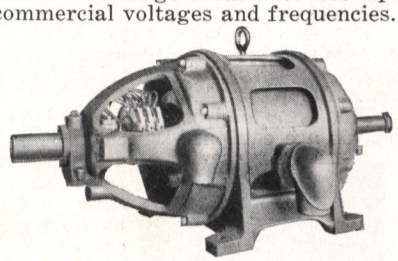
These motors are used extensively for driving fans, blowers, pumps, compressors and on many other applications that require constant speed drives.



10-hp. Type CS Motor

Type CW Motors—Wound rotor induction motors built in all ratings for operation on any commercial voltage or frequency. They find a wide field of application on pumps, compressors, drills, hoists and on all constant or varying speed, continuous duty applications. Type CW motors are particularly well adapted for applications where high starting torques with low starting currents are required.

Type CI Motors—Built in ratings from 2 to 300 hp. for operation on all commercial voltages and frequencies. They are intermittent-duty motors sturdily built for the severe service encountered on cranes, hoists, lift and bascule bridges, and railway applications. They have double-extended shafts which may be either tapered or straight.

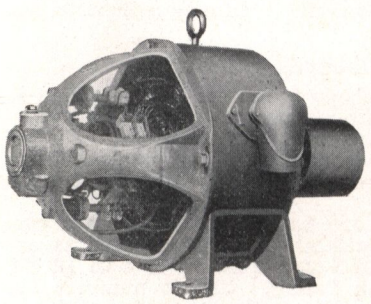


Type CI Motor

Direct Current Motors

Type SK Motors—Direct current motors built in all ratings up to 250 hp. for operation on 115, 230 and 550 volts. They may be series, shunt or compound wound and are equipped with commutating poles to insure sparkless commutation. They may be operated at constant, adjustable or varying speeds on continuous or intermittent duty. Common applications are on machine tools, pumps, printing presses, cold rolls, paper machines, fans, blowers, etc. With mechanical modifications, type SK motors may be made drip-proof, dustproof, totally enclosed, vertical, etc., to meet operating requirements.

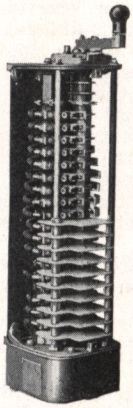
The SK motor was developed by Westinghouse engineers in 1911. It soon gained popular favor as a general purpose direct-current machine. Today, there are more SK motors in use than any other direct-current, general purpose motor.



SK Direct-Current Motor

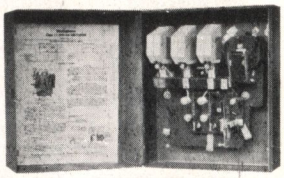
Control

Class 11-200 Linestarters—Comprise a complete line of remote-controlled, non-reversing, across-the-line type magnetic starters for single phase and polyphase squirrel-cage induction motors. The several types and many modifications of these starters make them suitable for a wide range of application. They are widely used for starting motors driving machine tools, woodworking machines, textile machinery, pumps, blowers and other machines where remote control with complete protection to the operator, motor and machine is desired.



Class 12-700 Type A Controller with Cover Removed

Linestarters can also be used as primary switches for wound rotor motors in combination with suitable secondary controllers and resistors.

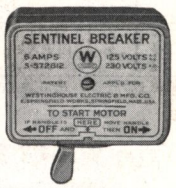


Class 11-200-A6 LINESTARTER

Type A Drum Controllers—Available for A.C. or D.C. applications. Several new features of design have been incorporated in these controllers which make them particularly desirable from an operating and application point of view. Some of these features are: reversible contact segments with doubled operating life; accurately aligned fingers; extreme ease of operation because of ball and roller bearing construction; mounting in any position made possible by thrust bearing; interchangeable operating heads; ease of wiring; and compact construction.

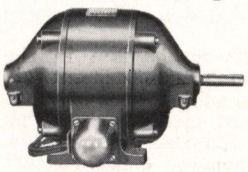
Westinghouse Sentinel Breaker—A very compact unit for use in protecting fractional horsepower motors against overloads, and as a convenient starting switch. It eliminates motor burnouts by breaking the circuit before overloads can damage the motor. Its largest dimension is less than 3½ in.

The sentinel breaker is built in eight different current ratings for commercial voltages and frequencies. With such a wide range of ratings, a sentinel breaker can be obtained to protect any motor from 1/20 to 1 hp.



Sentinel Breaker

Fractional Horsepower Motors



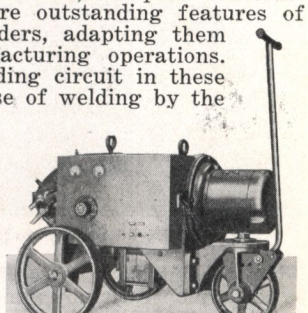
Type AR Motor

Westinghouse fractional horsepower motors are built in ratings from 1/150 hp. up, for application on A.C. or D.C. circuits. Frameless types are available for built-in applications on such machines as hand drills, buffers, grinders, vacuum cleaners, etc.

Arc Welding Equipment

Speedy, dependable performance, compact construction and easy portability are outstanding features of Westinghouse Flex-arc Welders, adapting them favorably to use in manufacturing operations. An exclusive non-surge welding circuit in these welders permits extreme ease of welding by the operator.

Westinghouse welding machines are built in a wide range of ratings and types—stationary and portable; for all sources of electric power, for gasoline engine drive or for belt drive, portable or stationary; in single or multiple operator types. Operator's accessories are also available.



200-Amp. Portable Arc Welder

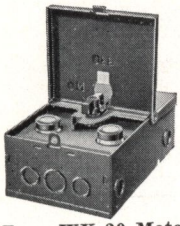
Phos-copper Alloys

An economical substitute for silver solder for use in welding, soldering or brazing copper and copper-base alloys. No flux is required, it has high fluidity and a low melting point. Available in strip or rod forms.

(Continued on Next Page)

Motor Starting Switches

Are single-throw for starting motors of from fractional horsepower up to 10 horsepower, allowing the heavy-starting current and momentary overloads, but protecting against damage due to prolonged overloads.



Type WK-20 Motor Starter Arranged for Plug Type Thermal Cutout

The feature of motor starting switches that makes them different from ordinary switches is the thermal cutouts that are used in them, instead of fuses. These thermal cutouts are so designed that they will carry the heavy current required for starting the motor, and will withstand momentary peaks but will open the circuit, protecting the motor when it is subjected to overloads prolonged sufficiently to endanger it.

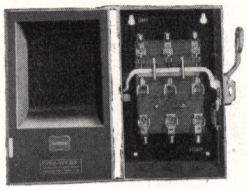
Thermal cutouts are made in plug and cartridge type. The rating of the motor starting switches can be changed by changing the rating of the cutouts used.

Type WK-97 Safety Switch

A motor circuit and general purpose switch, for 575-600 volts, quick-make and break, single-throw with diamond pointed jaw, individual deion arc quencher, compression type spring, copperparts removable from front, fusible, keyhole mounting slots and stop rack.

Amp.	Poles	Volts	Approx. shipp. wt., lb.	Style No.	List price
30	2	250	8	597100	$6.00
30	3	230 A.C.	10	597101	7.50
30	4	230 A.C.	11	597102	9.50

The complete line is given in Catalog 223.



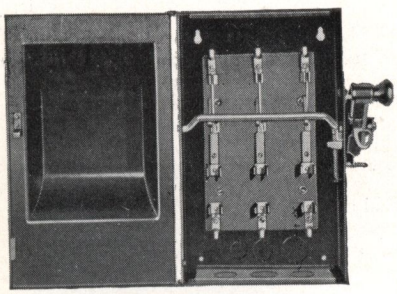
Type WK-97 Safety Switch

Type WK-66 Safety Switch

A motor circuit and general purpose switch for industrial use. It is a quick-make, quick-break switch with an interlocking door. It is made in fusible, solid neutral, and non-fusible styles, rated for 230 volts a-c. and 250 volts d-c., and 575 volts a-c. and 600 d-c. The ampere ratings are from 30 to 1200.

The quick-make and quick-break mechanism in the WK-66 Switch is simple and highly efficient. It is entirely contained in the handle, leaving the cabinet free of parts that might break and cause a short circuit or ground.

The well-known Westinghouse diamond-pointed jaw and extended blade construction assures clean contact and prevents burning and beading of the parts that are in contact.



Type WK-66 Safety Switch

The interlock used on the WK-66 Switch is simple and positive in operation. The door can be opened only when the switch is in the off position and the switch cannot unintentionally be closed with the door open.

When the interlocking mechanism is not desired it can be made inoperative by removing a small spring.

On the 575-600-volt WK-66 Switches, arc quenchers are supplied. These arc quenchers consist of a series of slotted steel plates, mounted in a porcelain holder over each switch jaw. As the blade leaves the jaw it passes through the slot in these plates and any arc which is formed is quickly dissipated.

Other features found in the WK-66 include Micarta insulating brackets, nuts spot-welded to the back of the box, into which screws for mounting the switch base are threaded, highest grade Monson slate, free from metallic veins, abundance of knockouts, and plenty of wiring space.

The complete line is given in Catalog 226.

Type WK-65 Accessible-fuse Main Entrance Switches

Standardized for single-phase and d-c. service—30, 60 and 100 amp. 2-wire 125 volts; 3-wire 125-250 volts without testing facilities.

Main line fuses are accessible only when switch is in off position. Block is arranged so the incoming line passes through switch blades then fuses, to the meter. Meter connections sealed within the box.

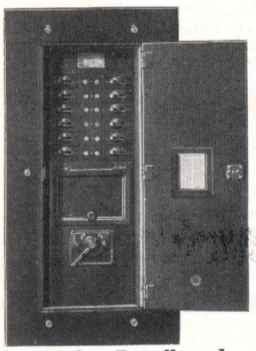
Amps.	Volts	No. poles	Fusing	Switch blades	Arrangements	Switch with meter trim		Switch without endwall	
						Style No.	List price	Style No.	List price
30	125	2	1 plug	1	S. N.	*K-65046	$4.55	K-65010	$4.15
30	125	2	2 plug	2	.....	*K-65047	5.00	K-65011	4.60
30	125-250	3	2 plug	2	S. N.	*K-65048	5.45	K-65012	5.05
30	250	2	1 N.E.C.	1	S. N.	*K-65064	5.30	K-65063	4.90
30	250	2	2 N.E.C.	2	.....	*K-65049	6.20	K-65013	5.80
30	125-250	3	2 N.E.C.	2	S. N.	*K-65050	6.20	K-65014	5.80
60	250	2	1 N.E.C.	1	S. N.	†K-65066	16.00	K-65065	15.10
60	250	2	2 N.E.C.	2	.....	†K-65051	17.00	K-65015	16.10
60	125-250	3	2 N.E.C.	2	S. N.	†K-65052	18.00	K-65016	17.10
100	250	2	1 N.E.C.	1	S. N.	†K-65068	26.00	K-65067	25.10
100	250	2	2 N.E.C.	2	.....	†K-65053	27.00	K-65017	26.10
100	125-250	3	2 N.E.C.	2	S. N.	†K-65054	28.00	K-65018	27.10

Std. pkg.; 30-amp., 10; 60-amp., 4; 100-amp., 2.
Shipping wt., each; 30 amp., 9 lb.; 60 amp., 23 lb.; 100-amp., 35 lb.
*Meter trim K-62675. †Meter trim K-62670.
The complete line is given in catalog 226.

Industrial Panelboards

The Westinghouse type NAB Nofuz, NST and ST panelboards are ideally adapted for service where large banks of lamps and small motors are controlled direct from the panelboard.

The branch circuits of the type NAB Nofuz panelboards are equipped with circuit-breakers instead of the conventional toggle switch and fuse. This device makes it possible to reclose the circuit immediately after an overload causes the breaker to trip. The trouble and expense of changing fuses are eliminated. Greater protection is given the wiring as the calibration of the breaker cannot be changed or its action blocked so as to remove its protective features. No live parts are accessible.



Nofuz Panelboard

Type NST and ST panelboards are equipped with 30-ampere, 250-volt, heavy-duty tumbler switches, and fuses. Door-in-door construction can be furnished to assure full safety to the operator and to prevent unauthorized persons from gaining access to the fuse compartment.

Safety Type R Panelboards

These panelboards embody the latest improvements in panels for residences, stores, garages and small apartments. They may be used for either 2 or 3-wire service and are particularly recommended where plug fuse protection without switches is sufficient in the branch circuits.

Type R Panelboards are built up of sections of cold molded asbestos composition. The branch circuits are arranged in multiples of two circuits from 4 to 12 circuits for double branch fusing. Circuit numbers are provided on the molded units so that there is no chance of error in making wiring connections when the front is removed. The panels are mounted on continuous straps and secured to boxes by means of screws.

The box is furnished with removable front with the door cut out. A single door with knob and latch covers the compartment containing the fuses. Card holder and index are provided on door of each panel. On account of the small wiring gutter, type R Panelboards and boxes

can only be used when the feeders are terminated in the boxes. When risers are required, type R3G panelboards are recommended.

Construction—

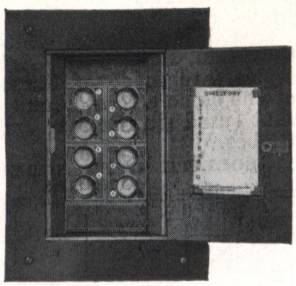
Panels—Sections of molded asbestos composition.

Mains—2 or 3-wire 125/or 250 volt N. E. C. capacity.

Branches — 30-Amp. 125-volt D. P. plug fuse connections.

Bos—Code gauge steel, 1½-in. Gutters.

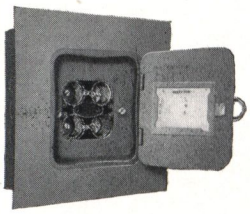
Front—Code gauge steel, black finish, flush type.



Safety Type R Panelboard

Branches	Capacity of mains	Outside dimen. of box, in. High	Wide	Deep	Approx. wt., lb.	Cat. No.	List price
4	30	12½	9	3½	20	R-04L	$9.00
6	60	15½	9	3½	25	R-06L	13.50
8	60	18½	9	3½	30	R-08L	16.20
10	60	21½	9	3½	35	R-010L	18.90
12	60	44½	9	3½	40	R-012L	22.50

Junior Residence Panels



Flush Type Junior Residence Panel

These panelboards are designed to provide plug fuse protection for residence lighting systems at extremely low cost. Numerous knockouts and plenty of wiring space assure a convenient and economical installation. The fronts are finished in dull gray. A single door with catch covers the compartment containing the fuses. Card holder with index and wiring diagram is provided on door of each panel. The panels are self-aligning.

No. of circ.	Dimensions, in. (all box sizes) High	Wide	Deep	Std. pkg., quan.	Flush mntg., style No.	Surface mntg., style No.	Approx. shpg. wt., std. pkg., lb.	List price, std. pkg.	List price, less std. pkg.
† 2	6½	5½	2¾	25	†K–64012	†K–64052	110	$2.80	$3.00
† 3	6½	5½	2¾	10	†K–64013	†K–64053	55	3.40	3.75
† 4	7½	7	2¾	10	†K–64014	†K–64054	75	4.00	4.50
6	10	8	2¾	10	K–64016	K–64056	100	6.20	6.50
8	10	10	2¾	5	K–64018	K–64058	70	10.00	10.60
10	14	12	2¾	5	K–64020	K–64060	90	12.00	12.50
12	14	12	2¾	5	K–64021	K–64061	90	13.50	14.20
* 6	14	7	2¾	5	*K–73800	*K–73803	70	10.00	10.60
* 9	14	9	2¾	5	*K–73801	*K–73804	80	12.00	12.50
*12	14	12	2¾	5	*K–73802	*K–73805	90	15.00	15.70

†Denotes 2-wire 125-volt system.
*Denotes 3-phase 4-wire system—solid neutral.
All other styles are for 3-2 wire 125-250 volt system—solid neutral.

JUNIOR BUILDING PANELS FOR 125-250 VOLT 3-WIRE SERVICE AND 3-PHASE 4-WIRE SERVICE—SOLID NEUTRAL

No. of circ.	Dimensions, in. (all box sizes) High	Wide	Deep	Std. pkg., quan.	Flush mntg., style No.	Flush mntg., style No.	Approx. shpg. wt., std. pkg., lb.	List price, each
4	71½	12	2¾	1	K–64034	K–64074	10	$8.00
6	10	12	2¾	1	K–64036	K–64076	13	12.00
8	20	10	2¾	1	K–64038	K–64078	18	16.00
10	22	12	2¾	1	K–64040	K–64080	23	19.00
12	22	12	2¾	1	K–64042	K–64081	23	24.00
6	14	12	2¾	1	‡K–73806	‡K–73809	18	16.00
9	22	10	2¾	1	‡K–73807	‡K–72810	21	22.00
12	22	12	2¾	1	‡K–73808	‡K–73811	23	26.00

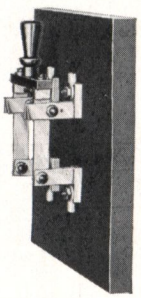
‡ Denotes 3-phase 4-wire system—solid neutral. All other styles are 3-wire 125-250 volt system. Solid neutral junior building panels may be installed with switch panels on right or left side or bottom. They are equipped with switch plates provided with rectangular knockouts for standard makes of toggle switches.

Type AL Knife Switches

Type AL Knife Switches are made in approved standard sizes from 30 to 6000 amperes inclusive. Switches of 30 to 600 ampere capacity are made for both front and rear connections, non-fusible and fusible, ordinary and quick break, for 250 volts D.C., 500 volts A. C. and 600 volts D. C., and A. C. Rear connected switches, plain and quick break, non-fusible are made in 800 ampere to 6000 ampere D. C. and 4000 A. C. sizes, both 250 and 600 volts. The fusible switches are made fusible at the hinge end and single throw only. The 30 ampere, 500 and 600 volt switches are made of 60 ampere parts and have 60 ampere spacings. The fusible switches are made fusible at the hinge end and single throw only.

Quick Break Attachments—All switches, single and double throw, can be supplied with quick-break attachments when so specified, except the 30 ampere, 250-volt types.

More complete information can be obtained from Westinghouse catalog of Electrical Supplies or our nearest district office.



100-Amp., 250-Volt Type AL Switch

250 Volts D-c.—500 Volts A-c.—Non-fusible

Amp.	Net wt., lb.	Style No.	List price	Amp.	Net wt., lb.	Style No.	List price
Single-pole				**Two-pole**			
30*	1	554195	$0.96	30	1½	554196	$1.24
30†	1	554727	1.44	30	1½	554728	2.58
60	1	554247	1.50	60	1½	554248	2.70
100	1½	554343	2.54	100	2½	554344	4.60
200	2½	554439	3.90	200	4	554440	7.10
400	5	554535	8.48	400	9	554536	15.40
600	8½	554631	12.20	600	16	554632	22.20
800	11	554807	21.46	800	20	554808	39.00
1200	16	554839	29.04	1200	30	554840	52.80
Three-pole				**Four-pole**			
30*	2½	554197	2.60	30	3	554198	3.48
30†	2½	554729	3.90	30	3	554730	5.20
60	2½	554249	4.06	60	3	554250	5.40
100	4	554345	6.90	100	5	554346	9.20
200	6	554441	10.66	200	8	554442	14.20
400	13	554537	23.10	400	17	554537	32.72
600	23	554633	33.30	600	30	554634	47.18
800	30	554809	58.50	800	40	554810	78.00
1200	44	554841	79.20	1200	58	554842	105.60

*250 volts d-c. only. †500 volts a-c.

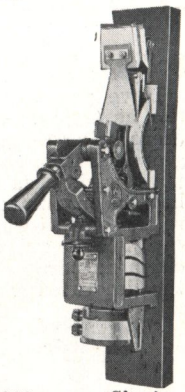
Carbon Circuit Breakers

Westinghouse carbon circuit breakers are distinguished for their strength, simplicity, compactness, neat appearance, and cool operation.

Type CL—Manually or electrically-operated, for D.C. or A.C. circuits up to 600 volts. Made rear-connected with plain overload, in single-pole single-coil, 2-pole 2-coil, 3-pole 2-coil, 3-pole 3-coil and 4-pole 2-coil styles.

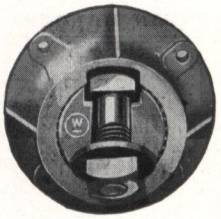
Type CL can be supplied with plain overload, inverse-time-limit overload, shunt trip, undervoltage trip, reverse-current trip and various other protective accessories.

Type CH—Manually-operated; for frequent opening of single-pole; for heavy-duty 750 and 1500-volt D.C. circuits; capacity up to 8000 amp.



200-amp. Single-pole CL Carbon Circuit Breaker

Adjustable Concrete Inserts



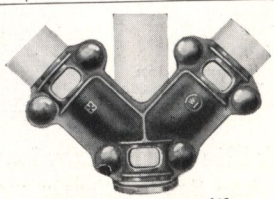
Machine Bolt Being Slid Into T-Slot

Designed for use wherever it is desired to bolt electrical equipment or machinery to concrete floors, walls or ceilings. Available for use with ⅜ and ½-inch machine bolts, including 2-in. long machine bolts, to be used when securing the insert to the form, which insures a ⅝-in. adjustment in any direction from the center of the insert housing.

Insert size, in.	Style No.	List price
⅜	411332	$0.80
½	411333	.82

Structural Pipe Fittings

Available in combinations for outdoor substations, switchboard frames, racks, shelving, braces and supports. Made in standard 1¼ and 2-in. pipe sizes, also in ¾, 1 and 1½-in. sizes for switchboards and for clamping insulators to pipe frames.



Floor Flange with Double 45° Brace

(Continued on Next Page)

COMMERCIAL LIGHTING

Sollux With Plain Hangers

Lower in price than with the paneled hanger. Designed to retain the many practical advantages of the Sollux Globe, including keeper ring safety holder and tilt-out cap, at a lower cost than that of the Paneled Hanger. Canopy made of heavy-gauge brass mounted on a stem of sufficient length to allow room for making connections. A ⅜-in. malleable iron hickey of standard design fits on end of canopy stem. Husk is similar to that used in the Paneled Hanger except that embossing has been omitted. A keeper ring, like that used in the Paneled Hanger, is supplied with Plain Hanger. The easy-to-wire socket is an important feature.



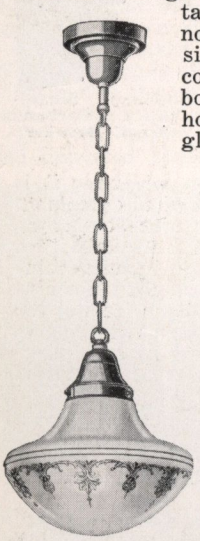
Ceiling Type Plain Globe

SOLLUX WITH PLAIN HANGERS

With Plain Globe			For lamp size, watts	With Decorated Globe		
Style No.	Length, in.	List price		Style No.	Length, in.	List price
Suspension Type						
343823	32⅝	$ 8.75	75	343828	32⅝	$11.50
343824	34⅜	10.50	100–150	343829	34⅜	14.20
343825	35⅝	13.00	200	343830	35⅝	17.70
343826	38	16.85	300	343831	38	23.10
343827	39¼	20.60	500	343832	39¼	33.20
Ceiling Type						
343012	11⅜	$ 7.15	75	343015	11⅜	9.90
343013	12⅞	8.90	100–150	343016	12⅞	12.60
343014	14⅛	11.40	200	343017	14⅛	16.10
343586	15⅞	15.05	300	343588	15⅞	21.30
343587	17⅛	18.80	500	343589	17⅛	31.40

Sollaire With Plain Hangers

Have practically the same efficiency of light distribution as Sollux. Very similar to the Sollux in appearance, there being but a slight difference in general contour of globe. Although the same quality of workmanship and material is used in the two units, certain Sollux features have been eliminated in the Sollaire and a considerable reduction in cost has been made possible. The "tilt-out" cap, keeper ring, malleable iron hickey, detachable link chain and drop canopy are not found in the Sollaire. On the decorated globes the standard decoration is a light tan, but other colors can be furnished at no extra charge. Special decorative designs can be furnished at additional cost. Decorated globes are furnished both undrilled and drilled with a ⅜-in. hole at the bottom. With the drilled globes a suitable tassel is supplied.



Suspension Type Decorated Globe

SOLLAIRE WITH PLAIN HANGERS

With Plain Globe		For lamp size, watts	Length, in.	Globe (Undrilled)	
Style No.	List price			Style No.	List price
Suspension Type					
343833	$6.00	50– 60– 75	30¼	343839	$7.85
343834	6.65	75–100	31¾	343840	8.80
343835	7.40	100–150	33⅛	343841	9.95
343836	9.30	150–200	34⅝	343842	11.80
343837	11.35	200–300–500	36½	343843	14.90
343838	16.20	300–500	37⅞	343844	19.90
343090	30.10	750–1000	39¼	343091	37.15
Ceiling Type					
349219	$4.45	50– 60– 70	8⅝	349225	$6.30
349220	5.10	75–100	10⅛	349226	7.25
349221	5.85	100–150	11½	349227	8.40
349222	8.50	150–200	13	349228	11.00
343592	11.05	200–300–500	15⅛	343594	14.60
343593	15.90	300–500	15¾	343595	19.60
343093	29.20	750–1000	20½	303094	36.25

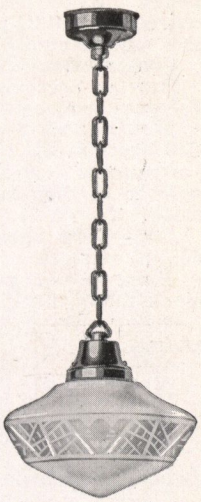
Sollite With Screwless Hangers

The Sollite offers a more angular globe for those to whom the Sollux and Sollaire Globes do not appeal, or who wish to use a globe decoration in the more modern style.

The Sollite Globes, which come in the Plain, Banded and Art Moderne styles, are made of diffusing glass of the same efficiency and quality as that used in Sollux and Sollaire Globes.

SOLLITE WITH SCREWLESS HANGERS

With Plain Globe		For lamp size, watts	Length, in.	With Banded Globe	
Style No.	List price			Style No.	List price
Suspension Type					
343167	$4.50	50– 60– 75	28½	343174	$5.05
343168	5.65	75–100	29⅝	343175	6.35
343169	6.70	100–150	30⅝	343176	7.60
343170	8.90	150–200	32⅛	343177	9.55
343171	11.25	200–300–500	33½	343178	12.05
343172	15.20	300–500	35⅛	343179	16.80
343173	29.00	750–1000	37⅝	343180	32.20
Ceiling Type					
343188	$3.20	50– 60– 75	10⅜	343195	$3.75
343189	4.35	75–100	11⅜	343196	5.05
343190	5.40	100–150	12⅜	343197	6.30
343191	7.55	150–200	14	343198	8.20
343192	9.90	200–300–500	15¼	343199	10.70
343193	13.85	300–500	16⅞	343201	15.45
343194	28.10	750–1000	19⅞	343202	31.30

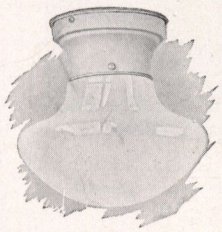


Suspension Type Banded Globe

Sollux and Sollaire Kitchen Units



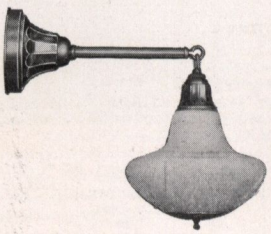
Sollux Kitchen Unit



Sollaire Kitchen Unit

Style No.	Length, in.	List price	Style of unit	For lamp size, watts
352500	11⅜	*	Sollux	75–100
343096	8 1/16	$4.55	Sollaire	60– 75
349276	10 3/16	5.20	Sollaire	75–100
343097	11 9/16	5.95	Sollaire	100–150

*Price on application.



Sollux Luminaire with Wall Bracket

Sollux Luminaires With Wall Brackets

Sollux paneled brackets are made to supplement the suspension luminaires in locations where the bracket method of suspension is desirable.

Paneled Bracket—Plain Globe—Complete

For lamp size, watts	Extension, in.	Style No.	List price
75–100	14½	343027	$10.25
150	15½	343028	12.00
200	16½	343029	14.50

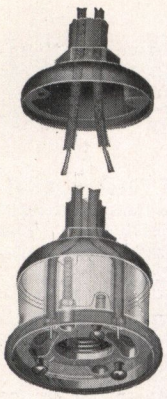
Chromilite Window Floodlight

This unit supplements show window reflectors and is suitable for any colored interior illumination. For 200-watt PS-30 lamp, without film, shipping weight, 6 lb., style number 349529, list price, $8.40.



Chromilite Window Floodlight

INDUSTRIAL LIGHTING EQUIPMENT

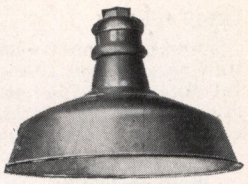


Phantom View of Bayonet Heel Reflector-Socket Showing Easy-to-Wire Features

Bayonet Heel Reflectors-socket Fixture—Weatherproof, easy to wire, medium or mogul size, interior or exterior use, for connecting from 4-in. outlet box or suspended from ½ or ¾-in. conduit or on reinforced drop cord by using porcelain bushings. Double lamp grip assures perfect electrical contact and prevents loosening of lamp under vibration.

RLM Fixtures with Bayonet Heel Reflectors and Sockets—RLM Standard Dome Reflectors are porcelain enameled, made in diameters of 12, 14, 16, 18 and 20 in. for lamp sizes from 50 to 1000 watts. Furnished with bayonet heels. Standard heels, also with clamp holders.

A complete line of reflectors, sockets, hoods, hangers, diffusers, vapor-proof units, suspension eyes, globes, brackets and porcelain enameled steel fixtures are shown in Catalog 288-A.



RLM Fixture

Airport Lighting Equipment—The Westhinghouse system of airport lighting, employing chromilite landing field floodlights, has been designed to provide safe, flexible and economical illumination.

Porcelain-Lined Conduit Bushings—Furnished in set-screw, threaded and split types.

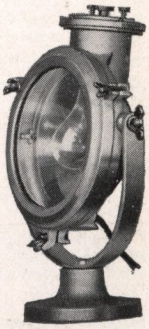
Micarta Tubes and Bushings—Micarta, in the form of tubes, can be supplied for use in the construction of bushings for conductors which pass through the wall or floor.

FLOODLIGHTING EQUIPMENT

Westinghouse makes the Type CA floodlight projectors. These are made of cast aluminum, equipped with chromium-plated reflectors. The reflector surface is impervious to corrosion or tarnishing. Typce CA Floodlight Projectors come in sizes with 10-inch, 14-inch, and 16-inch reflectors which may be had equipped with clear, colored, or stippled diffusing lenses. These projectors are completely described and listed in the Westinghouse Airport and Floodlight Equipment Catalog 219.

PROJECTOR PRICES

Description	Type CA-10 Style No.	Watts	Diam., in.	Ship. wt., lb.	List price, each	Type CA-14 Style No.	Watts	Diam., in.	Ship. wt., lb.	List price, each	Type C-16 Style No.	Watts	Diam., in.	Ship. wt., lb.	List price, each
With Wide Beam Reflector															
Clear lens						349329	300–500	13½	77	$61.00	349309	750–1000	16	100	$70.00
Rectilinear spread lens						349344	300–500	13½	77	61.00	349345	750–1000	16	100	70.00
Stippled diffusing lens						349330	300–500	13½	77	61.00	349310	750–1000	16	100	70.00
With Narrow Beam Reflector															
Clear lens	349100	150–200	10	60	$40.00	349326	300–500	13½	77	$61.00	349306	750–1000	16	100	$70.00
Clear lens and G-bulb adapter	349386	250	10	60	40.00	349331	500	13½	77	61.00	349311	1000	16	100	70.00
Rectilinear spread lens	349515	150–200	10	60	40.00	349327	300–500	13½	77	61.00	349307	750–1000	16	100	70.00
Stippled diffusing lens	349415	150–200	10	60	40.00	349328	300–500	13½	77	61.00	349308	750–1000	16	100	70.00
Diffusing lens and wall brackets	349387	150–200	10	60	42.00										
Red lens	349404	150–200	10	60	42.00	349407	300–500	13½	77	64.00	349410	750–1000	16	100	74.00
Blue lens	349405	150–200	10	60	41.00	349408	300–500	13½	77	63.00	349411	750–1000	16	100	73.00
Amber lens	349406	150–200	10	60	41.00	349409	300–500	13½	77	63.00	349412	750–1000	16	100	73.00
Green lens	349911	150–200	10	60	41.50	349913	300–500	13½	77	63.00	349477	750–1000	16	100	73.00



Type CA-10

Battery Chargers and Rectifiers



Garage Type Rectigon

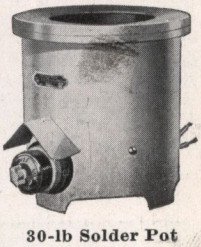
Equipment of every type for rectifying and battery charging purposes. Rectox, Rectigons, mercury arc rectifiers, battery charging panels, etc. The Rectigon Battery Chargers and Rectifiers have high electrical efficiency and operate without attention or maintenance except replacement of bulbs at long intervals. Low in first cost—low in operating cost—low in maintenance cost. Rectox, the original copper-oxide charger and rectifier, requires no maintenance as it operates without the use of bulbs, or liquids. Rectox and Rectigons are made in standard sizes as well as in suitable units to fill special requirements.

Insulating Material

Micarta—Furnished in grades combining high dielectric resistance and mechanical strength, with high insulating resistance, low power factor (watt loss) and low moisture and oil absorption, according to the application. Available in 1/64 to 2-in. thick sheets and ¼ to 2-in. diameter. Rods up to 36 in. long. Also in tubes 3/16 to 8-in. diameter up to 37 in. long.

Mica—Offered in sheet and plate form in all standard sizes, also for cold molding, combined with paper or asbestos and as tubes.

Treated and Untreated Fabrics and Papers—Every variety and standard size in commercial use can be supplied. Also untreated fish papers, cement papers and fuller boards, cotton sleeving and tapes, twines and threads.

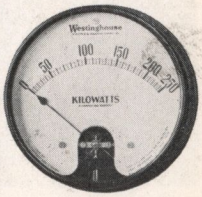


30-lb Solder Pot

Miscellaneous—Varnishes, shellacs, paints, cements and glue-insulating and soldering compounds are available; also acid, oil, moisture-resisting baking and air-drying varnishes; wax and asphaltic compounds; cements; paints, lacquers, enamels; soldering flux, insulating glue; insulating oils.

Solder and Babbit Pots—For processes requiring soft metal melting, also for paraffin, wax, rosin and compounds used for filling and insulating purposes.

Glue Pots—Furnished in 1, 2 and 4-qt. sizes, single heat or rheostatic types, for 60 to 195-watt capacity.



Type SY Wattmeter

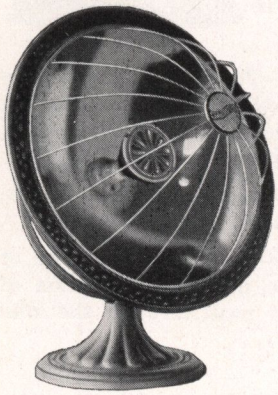
Instruments and Meters—In addition to the above distribution apparatus, Westinghouse furnishes a complete line of A. C. and D. C. instruments and meters in all ratings for all applications including switchboard and portable types. Galvanometers can be furnished for testing purposes.

(Continued on Next Page)

DOMESTIC APPLIANCES

Cozy Glows

Year by year Westinghouse has improved and refined its line of Cozy Glows to meet the ever growing demand for small portable heaters. Today the carefully designed and attractively finished Westinghouse Cozy Glows are adding more and more to the comfort and happiness of thousands of users.



Cozy Glow

The 1000-Watt Cozy Glow—This new model has added efficiency because of the especially cone-shaped design heating element. Light in weight, and attractively finished in rich bronze. Reflector highly polished chrome plate.

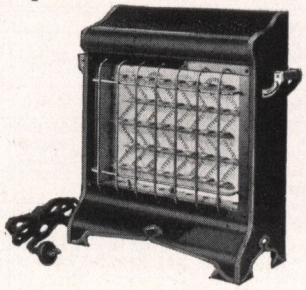
Style No.	Watts	Volts	List price, each
ZK–3	1000	110	$10.00
ZK–6	1000	220	10.00

Shipping weight, 11 lb.; standard package contains one heater. Style number includes cord and attachment plug.

The DeLuxe and Standard Cozy Glow at $7.50 are other popular models.

Portable Room Heaters

This new heater combines the efficient Solar Glow method of heating with Cozy Glow portability. Can be attached to any baseboard receptacle. Counterbalanced switch turns the current off automatically should the heater be tipped over forward. Finished in rich bronze with aluminized reflector. Convenient handles make carrying easy.



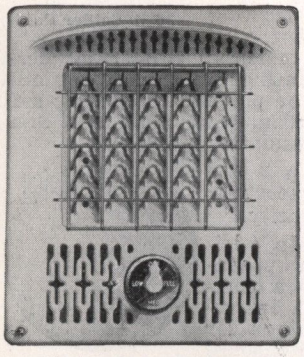
Portable Room Heaters

Style No.	Watts	Volts	List price, each
WB–23	1250	100–200	$12.50
WB–26	1250	200–240	12.50

Shipping weight, 11 lb.; standard package contains one heater. Style number includes flexible cord with attachment plug.

Solar Glow

This heater combines the advantages of the radiant and convection type heaters. When the heater is turned on, a beam of heat is instantly projected and convection currents are started which quickly bring the room to a cozy temperature. The porcelain brick which holds the heating element absorbs heat and in turn warms the air which enters the bottom openings and passes out at the top. A heat shield deflects the heat away from the wall above the heater.



Solar Glow Radiator
3-heat White Enamel

Style No.	Watts	Volts	List price, each
Single White Enamel One-heat Complete Heater			
395759	1200	110	$25.00
395760	1200	220	25.00
Single White Enamel Three-heat Unit, Complete with Switch			
470820	1500	110	14.00
470821	1500	120	14.00
470822	1750	110	15.00
470823	1750	120	15.00

Style No.	Item	List price, each
497480	Sheet metal wall box	$3.50
497483	White enameled frame	10.00

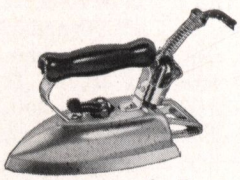
The Solar Glow is also available in a double unit which requires two heating units and uses a double frame in one piece.

Room type Solar Glows are finished in bronze, the front of the casting carrying a leaf design. Available in single and double units, with three-heat switches.

Irons

Westinghouse irons have made a big name for themselves in the appliance field. Their distinctive features—easy-to-grip handle—tapered point—beveled base—convenient heel rest—all have contributed to easier ironing days for millions of housewives.

The Adjust-o-matic—This new iron is a further development of the Built-in-Watchman temperature control made famous by the Westinghouse Automatic Iron. The lever can be set for any ironing heat needed, the temperature being maintained at the desired heat automatically by the Spencer Thermostat. Chrome finish permits you to guide the iron over fabrics with 30% less effort. Will not discolor, turn blue or tarnish.



Adjust-o-matic Iron

Style No.	Watts	Volts	List price, each
LB–2	600	100–110	$8.75
LB–4	600	111–120	8.75
*LB–6	600	210–230	8.75
*LB–8	600	231–250	8.75

Shipping weight, 7 lb.; standard package, 3. Style numbers include attached stand, detachable cord with separable attachment plug.

*For operation on A.C. only.

Other models include the Automatic at $7.95, and the Standard Household Iron at $3.50.

Waffle Irons

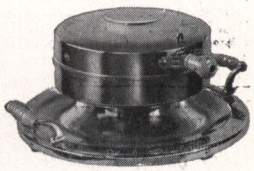
Westinghouse Waffle Irons are attractively finished, smartly designed, easy to handle, and convenient to use. Need never be greased again after the first time. Attached driptray prevents soiling of linen when too generous a portion of batter is used.

The Kenmore—A waffle iron of recognized beauty and convenience. Non-tarnishing chrome finish is lasting and easy to keep clean. New heat-indicating device tells at a glance when the iron is at the correct heat.

Style No.	Watts	Volts	List price, each
CR–22	600	105	$14.50
CR–24	600	115	14.50
CR–25	600	210	14.50
CR–27	600	230	14.50
CR–28	600	240	14.50

Shipping weight, 7½ lb.; grid diameter 7½ in., standard package, 4. Style number includes detachable cord with separable attachment plug and attached drip-tray.

The Automatic Waffle Iron at $20.00, the Wentworth at $15.00, the Rectangular at $13.50 and the Standard at $8.95 are other popular models which have won wide acceptance throughout the country.

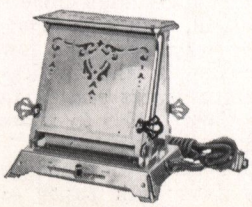


Kenmore Waffle Iron

Toasters

Toast can be made easily, quickly, conveniently—right at the table when a Westinghouse toaster is used. Toast can be turned by simply lowering the racks by two cool handles. Automatic models have a heat-control device which makes watching the toast quite unnecessary.

The Standard Automatic—In addition to the original turnover feature this toaster has full-altomatic control which makes it possible to toast *automatically* two slices at a time to any degree of brownness for which the indicator is set. Finished in bright nickel.



Automatic Turnover Toaster

Shipping No.	Watts	Volts	List price, each
TT–23	500	100–120	$9.00
TT–26	500	200–240	9.00

Shipping weight, 3¾ lb.; standard package, four.

Other models; Aristocrat Automatic $10.50; Aristocrat Non-automatic, $7.75; Standard Non-automatic $5.00.

Percolators

The Westinghouse line is designed for those who are seeking the very latest creations in percolators. In addition they have the most modern improvements in operating convenience. All standard models have automatic control which always keeps the heat at the proper temperature for good coffee.

The Wentworth — This model possesses a grace of line and richness of finish that set a new standard of appearance for popularly priced percolators. Service consists of four pieces that are neither cumbersome to use nor inconvenient to handle.



Wentworth Urn

Style No.	Watts	Volts	List price, each
PS–212	400	105	$35.00
PS–214	400	115	35.00

Shipping weight, 18 lb.; flexible cord with separable attachment plug included.

Other styles priced from $21.75 to $52.00.

Hot Plates

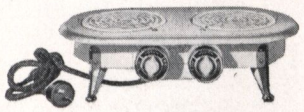
Where space is limited or an auxiliary cooking unit is required, hot plates of single and double unit capacity prove most satisfactory as a means of preparing temptingly tasty dishes. The Westinghouse models are not only of pleasing appearance and sturdy construction, but the heating units themselves are made to give years of constant service.

The 2000-watt—This popular model is ideally suited for use as an auxiliary cooking unit. The ordinary cooking vessels can be used on it with a high degree of efficiency since the heat is concentrated at the working surface of the units. Attractively finished in white nickel.

Style No.	Watts	Volts	List price, each
PH–33	2000	100–120	$16.00
PH–36	2000	200–240	16.00

Shipping weight, 15 lb.; standard package, one. Three heats in each unit, special wiring required.

1600-watt double hot plate $11.50; 1100-watt double hot plate, $7.95; 1000-watt single unit, $8.50; 550-watt single unit, $3.50.



1600-Watt Hot Plate

Warming Pads

When relief from pain is urgent, the comfort of a Westinghouse Warming Pad is most appreciated. Three-heat control switch gives the degree of warmth needed for best comfort. Choice of rose or green.

The Aristocrat—A light soft warming pad with non-interfering radio type thermostats to prevent overheating.



Aristocrat Warming Pad

Style No.	Watts	Volts	List price, each
258117	60	95–125	$8.50

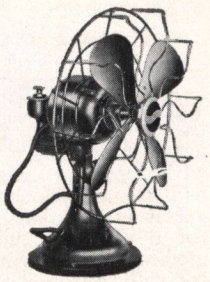
Three heat switch and cord; shipping weight, 3 pounds.

Standard Warming Pad—With tan cover, $6.50.

Westinghouse Fans

Non-oscillating Fans—May be used for drying clothes, fruits, paints, etc. in the home, to assure excellent ventilation in the office, and can be used in either a bracket or desk position. These fans are equipped with a non-radio interfering, induction type, 50 or 60-cycle motor, cast-iron base, heavy steel wire guard, and finished in an attractive black.

Oscillating Fans—This fan is very popular in commercial establishments such as restaurants, bakeries, barber shops, doctors' offices, and hospitals, as well as in home and office. Some features are: The improved guard which prevents tablecloths, curtains, and draperies from being drawn into the blades. A simple clutch is provided, which allows the oscillating mechanism to automatically disengage, should the fan strike an obstacle while oscillating. Noiseless Micarta blades are standard on all 10, 12 and 16-in. fans.



Westinghouse Oscillating Fan

Style No.	Diam. of blade, in.	†Freq., cycles	Volts	*Watts at high speed	*Average r.p.m.	*Cu. ft. air per min.	Shpg. wt., lb.	List price, each
517520	8	60	100–120	28	1600	375	7¾	$11.95
517723	10	60	100–120	36	1550–1350	550	15	17.00
**517726	10	60	100–120	36	1550–1350	550	15	18.50
516860	12	60	100–120	52	1040–900–750	925	23	27.00
***516862	12	60	100–120	52	1040–900–750	925	23	32.00
516873	16	60	100–120	80	1000–825–725	1640	40½	35.00
***516875	16	60	100–120	80	1000–825–725	1640	40½	40.00

* Watts, speed and air delivery may vary 10% from figures given.
** These fans are furnished in ivory finish with nickel-plated trimming.
*** These fans are furnished in polished nickel finish.
† All fans are supplied also for 25, 40 and 50-cycle and D.C. service.

Rotaire Fans—This fan is particularly adapted to salesrooms, stores and large halls. The Rotaire fan is similar to 16-in. oscillating fan, except that the base and base details have been eliminated to arrange for ceiling mounting. The Rotaire Fan draws air from the middle of the room and distributes it throughout the entire circle.

Style No.	*Watts at high speed	Volts	†Freq. cycles	*Average r.p.m.	Cu. ft. air per min.	Shpg. wt., lb.	List price, each
457690	88	100–120	60	1000	1640	50	$42.50

* Watts, speed and air delivery may vary 10% from figures given.
† All fans are supplied also for 25, 40 and 50-cycle and D.C. service.

Ceiling (Paddle) Type—All paddle type fans are controlled by a very conveniently placed three-speed switch. The shade holders are so designed that they can be attached to any fan in a very few moments.

Style No.	Diam. of blade, in.	†Freq., cycles	Volts	*Watts at high speed	*Average r.p.m.	*Cu. ft. air per min.	Shpg. wt., lb.	List price, each
393177	36	60	100–120	95	440	4200	48	$40.00
517192	52	60	100–120	120	260–215–175	7500	74	48.00
457666	56	40	100–125	170	195–160	6500	99	51.00

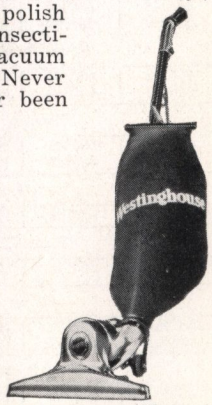
* Watts, speed and air delivery may vary 10% from figures given.
† These fans also supplied for 25, 40 and 50-cycle and D.C. service.

Vacuum Cleaners

Westinghouse vacuum cleaners have a greater scope of household uses. Will clean the finest of rugs, draperies and upholstering, wax and polish your floors, and spray paint and insecticides, etc. Second, we offer a vacuum cleaner that is very popularly priced. Never before has a cleaner of this caliber been offered at this price.

Product	Style No.	Volts	Freq., cycles	Shpg. wt., lb.	*List price
Vacuum cleaner	CL–3	110	D.C. to 60 cy.	15	$37.50
Vacuum cleaner	CL–6	220	D.C. to 60 cy.	15	37.50
Vacuum cleaner	CL–1	32	D.C.	15	37.50
Wax-Vac	589848	.....	.....	10	12.50
Standard attach.	547789	.....	.....	5	10.00
Utility attach.	589795	.....	.....	4	6.00

* East of Denver.

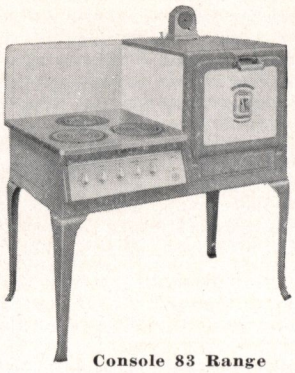


Wax-Vac Vacuum Cleaner

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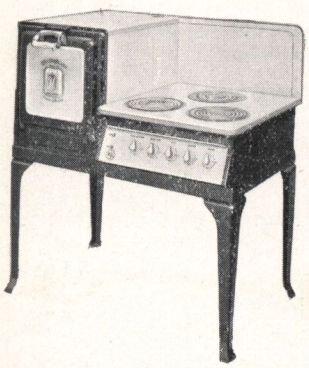
Westinghouse Electric Ranges with the Automatic Flavor Zone Ovens

The Console 83 Ranges—With an 18-in. oven and three platform units, has ample capacity for the family with cooking requirements a little above the average, yet it is sufficiently compact for a place in the small or medium-sized kitchen. Made for full automatic or automatic operation and with either enclosed or open coil *Quick-Cook* surface units. Floor space 45¾ in. wide by 27 in. deep. Height 51¼ in.



Console 83 Range

Style No. Left-hand oven	Style No. Right-hand oven	Volts, 3-wire	Volts, 2-wire	Surface units	List price
Gray Enamel					
668383	668384	105–115–125	105–115–125–220	Open	$185.00
668389	668390	105–115–125	105–115–125–220	Encld.	194.00
Semi-white Enamel					
668385	668386	105–115–125	105–115–125–220	Open	160.00
668391	668392	105–115–125	105–115–125–220	Encld.	169.00
Green Enamel					
668381	668382	105–115–125	105–115–125–220	Open	203.50
668387	668388	105–115–125	105–115–125–220	Encld.	212.50



Console 43 Range

The Console 43 Ranges—The Westinghouse Console type design has proved the most popular design ever created for electric ranges. The Console 43 has a 14-in. oven and three platform units. The CA-43 model is made for automatic and non-automatic control. It is five inches less in width and three inches less in depth than the Console 43, yet it has ample cooking capacity for the family of five or six. Its compactness makes it especially suitable for the kitchen or kitchenette where space is at a premium. Floor space, 40½ in. wide by 27 in. deep. Height, 49¾ in.

Style No. Left-hand oven	Style No. Right-hand oven	Volts, 3-wire	Volts, 2-wire	Surface units	List price
Gray Enamel—Full Automatic					
668343	668344	105–115–125	105–115–125–220	Open	$157.50
668349	668350	105–115–125	105–115–125–220	Encld.	166.50
Semi-White Enamel—Full Automatic					
668345	668346	105–115–125	105–115–125–220	Open	135.00
668351	668352	105–115–125	105–115–125–220	Encld.	144.00
Green Enamel—Full Automatic					
668341	668342	105–115–125	105–115–125–220	Open	173.25
668347	668348	105–115–125	105–115–125–220	Encld.	182.25
Gray Enamel—Automatic					
668353	668354	105–115–125	105–115–125–220	Open	150.00
Semi-White Enamel—Automatic					
668355	668356	105–115–125	105–115–125–220	Open	127.50
Gray Enamel—Non-Automatic					
668357	668358	105–115–125	105–115–125–220	Open	142.50
668361	668362	105–115–125	105–115–125–220	Encld.	151.50
Black Japan—Non-Automatic					
668359	668360	105–115–125	105–115–125–220	Open	120.00
668363	668364	105–115–125	105–115–125–220	Encld.	129.00

Lowboy to replace legs on Console 43 available at additional cost.

The Console 63 Ranges—Has an oven 16 in. wide which gives it the extra capacity that is often required for serving guests in the home or when the family is augmented by an additional member. Can be equipped for either full automatic or automatic operation, with either open coil or enclosed surface units. Floor space 43-in. wide by 27 in. deep. Height 51¼ in.

Style No. Left-hand oven	Style No. Right-hand oven	Volts, 3-wire	Volts, 2-wire	Surface units	List price
Gray Enamel					
668367	668368	105–115–125	105–115–125–220	Open	$172.50
668373	668374	105–115–125	105–115–125–220	Encld.	181.50
Semi-white Enamel					
668369	668370	105–115–125	105–115–125–220	Open	148.00
668375	668376	105–115–125	105–115–125–220	Encld.	157.00
Green Enamel					
668365	668366	105–115–125	105–115–125–220	Open	189.75
668371	668372	105–115–125	105–115–125–220	Encld.	198.75

The Console Fuel Ranges—These fuel-electrics combine in a single range the Flavor Zone method of electric cooking with an inexpensive water heater and auxiliary kitchen heater to meet the need for service in suburban and rural communities where homes are not equipped with central house-heating and water-heating systems. The fuel-burning section, in which either wood or soft coal can be used, is equipped with two removable top plates and with a water coil ready for connection to the water line.



Console Fuel Range

Style No. Left-hand oven	Style No. Right-hand oven	Volts, 3-wire	Volts, 2-wire	Surface units	Finish	List price
The Console Fuel Forty-three Ranges—Full Automatic						
668441	668442	105–115–125	105–115–125	Open	Gray Enamel	$214.00
668443	668444	105–115–125	105–115–125	Open	Semi-White	179.50
The Console Fuel Eighty-three Ranges—Full Automatic						
668445	668446	105–115–125	105–115–125–220	Open	Gray Enamel	241.50
668447	668448	105–115–125	105–115–125–220	Open	Semi-White	206.50

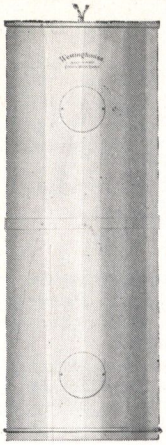


Low Oven Range

The Low Oven Ranges—For the apartment kitchen, for summer cottages, for small tea rooms, and the like, the new low-oven range offers an ideal solution to the problem of conserving cooking space. This compact, low-oven, two-unit range takes a floor space only 20 in. wide by 20 in. deep and stands just 39 in. high. Equipped with either open coil or enclosed *Quick-Cook* platform units.

Style No.	Volts, 3-wire	Volts, 2-wire	Surface units	List price
Gray Enamel—Automatic				
668425	105–115–125	105–115–125–220	Open	$103.00
668427	105–115–125	105–115–125–220	Enclosed	109.00
Gray Enamel—Non-Automatic				
668429	105–115–125	105–115–125–220	Open	96.00
668431	105–115–125	105–115–125–220	Enclosed	102.00
Black Japan—Non-Automatic				
668430	105–115–125	105–115–125–220	Open	81.50
668432	105–115–125	105–115–125–220	Enclosed	87.50
Black Japan—Automatic				
668426	105–115–125	105–115–125–220	Open	90.00
668428	105–115–125	105–115–125–220	Enclosed	96.00

Westinghouse Electric Water Heaters



Adapt-o-matic Electric Water Heater

These heaters have been designed to meet the requirements of the central station and the home owner. They are made in a wide range of types to suit different wattages, methods of operation, load diversity, and to provide ease of installation and servicing. The automatic types are controlled by the Spencer Thermostat, especially adapted for water heater service.

The Adapt-o-matic—This leader of the Westinghouse line is a complete, insulated tank, with immersion type elements automatically controlled. Made in 30 and 52 gal. sizes. Can be operated at wattages from 500 to 2500 by simply changing terminal connections on the elements.

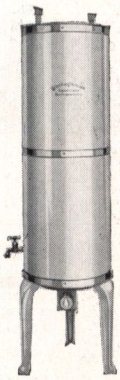
Catalog No. 120 volts	Catalog No. 240 volts	Cap. gal.	Wattage element Top	Wattage element Bottom	List Prices	Overall height, in.	Overall width, in.	Shipping wt. lbs.
With Steel Tanks								
WC–514	WC–518	30	1000	1000	$145.00	54½	20¾	350
WC–524	WC–528	30	1500	1000	145.00	54½	20¾	350
WC–714	WC–718	52	1000	1000	175.00	58	26¾	465
WC–724	WC–728	52	1500	1000	175.00	58	26¾	465
With Copper Tanks								
WC–564	WC–568	30	1000	1000	*	54½	20¾	305
WC–574	WC–578	30	1500	1000	*	54½	20¾	305
WC–764	WC–768	52	1000	1000	*	58	26¾	410
WC–774	WC–778	52	1500	1000	*	58	26¾	410

*Prices upon request.

The Adjust-o-matic—The Adjust-o-matic is another complete tank installation with single heating element controlled by three-heat snap switch and regulated within temperature limits by the Spencer Thermostat. Can be operated on *low*, *medium* or *high* to meet a variety of gallonage requirements.

Cat. No.	Cap. gal.	Wattage	Voltage	Overall height, in.	Overall width, in.	Shipping wt. lbs.	List Prices
With Steel Tanks							
WT–34	18	3000	120	72	19	308	$140.00
WT–38	18	3000	240	72	19	308	140.00
WT–58	18	5000	240	72	19	308	142.50
With Copper Tanks							
WT–234	18	3000	120	72	19	277	*
WT–238	18	3000	240	72	19	277	*
WT–258	18	5000	240	72	19	277	*

*Prices upon request.



Adjust-o-matic Electric Water Heater

Other models—

Automatic Strap-on Heaters—Designed for mounting on existing water tanks, to provide the convenience of electric water heating at the lowest initial cost. Complete installation comprises two heating units with suitable asbestos tank cover.

The Automatic—Similar in every respect to the Adjust-o-matic, except that water is maintained at only one temperature, approximately 155° F.

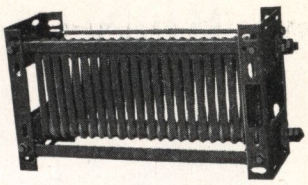
Side Arm Circulation Heater, Automatic—Equipped with Spencer Thermostatic control and regulated by a 3-temperature snap-switch at top of unit. Thermostat is mounted in the head of heater, protecting the heating element from burning out due to dry operation.

Industrial Heating Elements

Type C Electric Oven Heater—For industrial heating applications where temperature required does not exceed 750° F. Construction permits heaters to be mounted directly against wall without auxiliary brackets. Open core and proper ribbon spacing give ideal heat circulation and distribution.

Heating elements of nickel-chromium ribbon, wound spirally upon porcelain insulators, are mounted on two steel tie-rods.

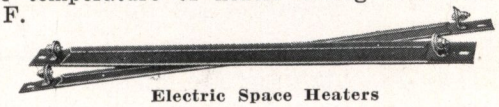
Where application calls for temperature between 600 and 750° F., ascoloy tie-rods can be furnished. Ratings: 1.75 to 5 kw.; 110 and 220 volts.



Type C Oven Heater Showing Ribbon Heating Element

Electric Space Heater—For general heating purposes where ease of application and convenience are desired. Unit may be used for air heating or placed in direct contact with metal surfaces.

Low-wattage heater consists of slotted nickel-chromium ribbon completely enclosed and protected by mica sheath and steel casing. Designed for applications where temperature of heater casing does not exceed 650° F.



Electric Space Heaters

In high-wattage heater mica is replaced by refractory cement and casing is of heat-resisting alloy. Used where high imput is required in restricted areas.

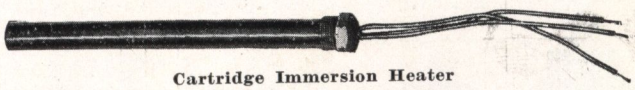
Flat surface of the Westinghouse Space Heater makes mounting easy. Designed for 220 to 1500 watts; 110 to 220 volts. Made in lengths from 12 to 43 inches and have a uniform width of 1½ in.

Electric Steel-clad Heater—Used principally where units are to be clamped on or between metal plates. Maximum operating temperature is 650° F.

Nickel-chromium heating element is assembled in mica sheath and encased in heavy steel under great pressure. Made in two sizes—1⅛-in., having one heating element, and 2¼-in. having two heating elements side by side; lengths up to 30 in.

Rated at 175 to 1300 watts; 55 or 110 volts.

Electric Cartridge Immersion Heater—For heating any fluid where a low-wattage unit is applicable. Consists of two lava spools wound with nickel-chromium wire and placed in a brass tube; insulated with alundum cement. Ratings: 400 watts; 110-200 volts.



Cartridge Immersion Heater

Electric Cartridge Heaters—For supplying concentrated heat over a small area where maximum temperature required does not exceed 800° F. Same construction as cartridge immersion heaters, but designed for direct contact with material to be heated and must be applied only by fitting tightly in hole drilled into machine casting. Not suitable as air or immersion heater unless specially designed. Ratings: 75 to 600 watts; 110 volts.

Heavy-duty Electric Industrial Immersion Heater—Suitable for use in any metal bath where maximum temperature will not exceed 950° F. Consists of Corox heating element imbedded in an iron casting. May be used singularly or in groups with proper industrial heating control panel. Ratings: 5 and 10 kw.; 230 volts.

Electric Air Heaters

Type D—Three sizes; strongly constructed. Operates on 100-120 or 200-240 volts A.C. or D.C. and is equipped with 3-heat switches. Capacity, 1000 to 3000 watts. Bronze finish; oxidized copper trimmings and legs.

Type E—Adapted for principal or auxiliary heating equipment in factories, substations, watchmen's shanties, etc. Constructed to withstand severe service. Made in 1000, 2000, 3000 and 5000-watt sizes. All except 1000-watt size equipped with three-heat switch. Finish is black enamel. Operates on 110 or 220 volts A.C. or D.C.

BENJAMIN ELECTRIC MFG. CO.

General Offices and Factory, Des Plaines (Chicago Suburb) Ill.

247 West 17th Street
NEW YORK, N. Y.

111 N. CANAL STREET
CHICAGO, ILL.

448 Bryant Street
SAN FRANCISCO, CALIF.

Benjamin Lighting Equipment for Commerce and Industry, Electrical Specialties, Signals and Panelboards

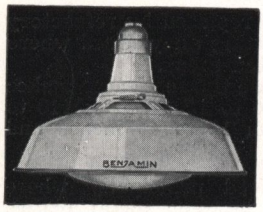
The Benjamin line includes: porcelain enameled reflectors and specialties; acid-proof, gasproof and weatherproof fixtures; industrial signals; wiring devices; panelboards and cabinets.

N.E.C. Standard—With a few exceptions, all Benjamin sockets and receptacles are National Electrical Code Standard.

Leading electrical wholesalers in every city carry a stock of Benjamin Products and are in a position to render prompt service on inquiries and orders.

Benjamin district representatives have headquarters in strategically located cities while divisional sales offices and warehouses are maintained at New York, Chicago and San Francisco.

New "Type 79" Lighting Equipment



Glassteel Diffuser

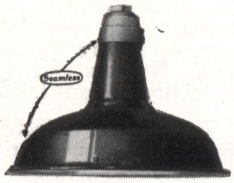
N.E.C. Std. Benjamin "Type 79" units are composed of two complete assemblies; a hood with an easy-to-wire terminal base and a reflector assembly including the lamp holder and the diffusing globe. With one simple movement this complete reflector assembly can be put up or taken down as a unit for easy cleaning or relamping on the floor.

Glassteel Diffuser—For uniform glareless illumination of upright and flat surfaces. Apertures in top of reflector permit passage of sufficient light to illuminate upper room areas. Crysteel porcelain enameled steel reflector—finished white inside and outside—with porcelain lamp holder, bayonet attaching plate and opal glass globe. Cadmium plated hoods: pendent type tapped for ½-in. conduit; ceiling type fits 4-in. standard outlet boxes.

Size of lamp, watts	Pendent Hood Fixt. Cat. No.	Ceiling Hood Fixt. Cat. No.	Diam. Refl., in.	List Price
150–200	7201	9201	18	$ 9.25
300–500	7202	9202	20	12.75
750–1000	7203	—	24	18.75

Standard package is 4 on 150-500 watts; 2 on 750-1000 watt units

RLM Dome Reflectors—For good general illumination of upright and flat surfaces. RLM Standard. Seamless, one-piece Crysteel porcelain-enameled steel reflector—finished white inside and green outside—porcelain lamp holder and bayonet attaching plate. Hoods are identical with those described for Glassteel units above.



RLM Reflector

Size of lamp, watts	Pendent Hood Fixt. Cat. No.	Ceiling Hood Fixt. Cat. No.	Diam. Refl., in.	List Price
100	7182	9182	12	$3.60
150	7184	9184	14	3.80
200	7186	9186	16	4.60
300–500	7188	9188	18	5.70
750–1000	7190	9190	20	7.60

Standard package is 10 on 100-200; 5 on 300-1000 watt units

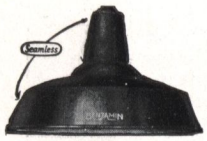
Shock Absorbing Lamp Holders—Lengthen lamp life by counter-acting vibration. Furnished when specified at $0.10 advance list.

One-piece Equipment—Reflector-Sockets

Uses—Weatherproof fixtures for either indoor or outdoor use. Each shape of reflector solves a definite lighting problem as explained below.

Construction—Seamless, Crysteel porcelain enameled steel reflectors, green outside and white inside. Easy-to-wire keyless porcelain socket is standard equipment, but if specified, pull chain, self locking or shock absorbing sockets will be furnished with medium base fixtures at an advance in list price. X Style Separable Weatherproof fitting tapped ½ inch standard, ¾ inch or bushed for drop cord if specified.

RLM DOME REFLECTOR-SOCKET



Lamp, watts	Uses	No.	List Price
50–60	For good general illumination where it is desired to light both horizontal and vertical surfaces. 17½° angle of cut-off	5640	$3.20
100		5641	3.30
150		5642	3.50
200		5643	4.30
300–500		5644	5.30
750–1000		5645	7.20

Std. pkg. is 10 on 50–200 watts; 5 on 300–1000 watt units

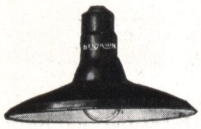
BOWL REFLECTOR-SOCKET

Lamp, watts	Use	No.	List price
50–60	Advantageous for the local lighting of machines and benches	6166	$2.90
100		6161	3.10
150		6189	3.30
200		6169	3.80
300–500		6173	4.70

Std. Pkg. is 10 on 50–500 watt units



SHALLOW BOWL REFLECTOR SOCKET



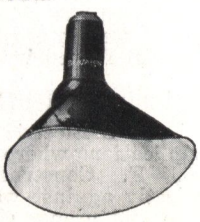
Lamp, watts	Use	No.	List Price
50–60	For outdoor use where lighting requirement is of extensive character and where eye shielding is not considered of first importance	5437	$3.30
100		5421	3.50
150		5423	3.80
200		5425	4.60
300–500		5509	5.70

Std. Pkg. is 10 on 50–500 watt units

ELLIPTICAL ANGLE REFLECTOR-SOCKET

Lamp, watts	Use	No.	List Price
60–100	Especially practical for illumination from the side. It gives a wide side distribution as well as directing light to the front	5522	$4.20
150		5525	4.20
200		5526	5.40
300– 500		5537	8.70
750–1000		5538	9.00

Std. Pkg. is 10 on 60–200 watts; 5 on 300–500 watt units; 2 on 750; 1000 watt units



Schedule 2 Discounts

Two-piece Equipment—"Sturdox," Heavy Duty Threaded Fixtures

A sturdy, two-piece line of industrial lighting equipment for installation where both economy and durability are important factors. Sturdox reflectors are of Crysteel porcelain enameled steel, green outside, white inside. Steel hoods are green Crysteel porcelain enameled; cast hoods are green paint enameled. Pendent hoods are regularly tapped for ½-in. conduit; outlet box hoods will fit 4-in. standard outlet boxes.

Pendent Style Hood — Cast, Steel

Outlet Box Style Hood — Cast, Steel

Pendent style					Outlet box style				
No.	Material	Socket	Std. pkg.	List price	No.	Material	Std. pkg.	Socket	List price
9200	Cast	Med.	10	$1.30	9200	Cast	10	Med.	$1.50
9205	Cast	Mogul	10	1.80	9225	Cast	10	Mogul	2.00
9210	Steel	Med.	10	1.10	9230	Steel	10	Med.	1.10
9215	Steel	Mogul	10	1.60	9235	Steel	10	Mogul	1.60

STURDOX REFLECTORS



RLM Dome Reflector



Shallow Bowl Reflector



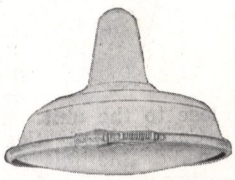
Bowl Reflector

RLM dome				Bowl			
Cat. No.	Diam., in.	Lamp, watts	List price	Cat. No.	Diam., in.	Lamp, watts	List price
26012	12	100	$2.10	26108	8¼	100	$1.80
26014	14	150	2.40	26109	9	150	2.00
26016	16	200	2.80	26110	10–	200	2.40
26018	18	300– 500	3.80	26112	12	300– 500	3.80
26020	20	750–1000	5.80				
Shallow bowl				Symmetrical angle			
26414	14	100– 150	2.15	26210	10	150– 200	2.75
26416	16	200	2.75	26212	12	300– 500	4.55
26418	18	300– 500	3.80	26214	14	750–1000	6.25

Standard package is 10 on 100–200 watts; 5 on 300–1000 watt units
Schedule 2

Dust-tight Glass Cover

A light-weight economical device that will give the reflecting surfaces of Benjamin reflectors protection against dust and dirt. Consists of a steel retaining band (cadmium finished), circular felt gasket and clear glass disc.



Cat. No.	To fit	List price	Cat. No.	To fit	List price
6408	8″ reflector	$3.10	6414	14″ reflector	$4.25
6409	9″ reflector	3.20	6416	16″ reflector	5.00
6410	10″ reflector	3.30	6418	18″ reflector	5.75
6412	12″ reflector	3.75	6420	20″ reflector	9.50

Std pkg. is 5 — Schedule 2

Emblem Sign Reflector

N.E.C. Std. Developed for high intensity lighting of circular and similar small signs. No conduit bends; easily wired from top of reflector; neat and inconspicuous when installed. Hood is cast iron, cadmium plated to prevent corrosion. Side outlet of hood is tapped for ½-in. conduit. One-piece easy-to-wire porcelain socket. Reflector of Crysteel porcelain enameled steel, green outside and white inside.



Cat. No.	Size of lamp, watts	List price
60	5736	$2.05
100	5738	2.10

Std. pkg.—10 — Schedule 2

Concentrating Type Unit

N.E.C. Std. Recommended for relatively narrow rooms where the mounting height is equal to or greater than the width of the room to be lighted. Also suitable for the lighting of outdoor locations. Special aluminum reflector with pendent cast hood (tapped ½ inch) or outlet box cast hood for 3¼ and 4 inch boxes. Hood and reflector finished green lacquer outside. Reflecting surface is a special aluminum oxide finish.



Cat. No.	Description	Lamp watts	List price
26120	Pendent Hood	750–1000–1500	$18.00
26122	Outlet Box Hood	750–1000–1500	18.20

Std. pkg.—4 — Schedule 2

"Benco" Metalclad Weatherproof Sockets

N.E.C. Std. Highly insulated; sturdy interior and strong metal casings. Med. Base: keyless, 660 watts, 600 volts; pull chain, 660 watts, 250 volts. Accomodates Benjamin Type S reflectors and holders.



Keyless Socket

Cat. No.	Tap, in.	Finish	Price
Keyless Sockets			
4200	½	Pol. Aluminum	$0.70
4202	½	Brush. Brass	0.85
4204	½	Nat. Copper	0.70
4201	⅜	Pol. aluminum	0.70
4203	⅜	Brush. Brass	0.85
4205	⅜	Nat. Copper	0.70
Pull Chain Sockets			
4225	½	Pol. Aluminum	1.40
4207	½	Brush. Brass	1.40
4236	½	Nat. Copper	1.40
4226	⅜	Pol. Aluminum	1.40
4208	⅜	Brush. Brass	1.40
4237	⅜	Nat. Copper	1.40

Std. pkg.—10 — Schedule 3



Pull-Chain Socket

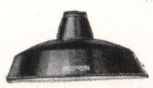
Shadeholder Reflectors

These reflectors are of Crysteel porcelain enameled steel, finished green outside and white inside. Can be furnished in styles shown with Type N neck for attachment to 2¼″ std. holders or Benjamin removable holders.

BENJAMIN SHADEHOLDER REFLECTORS
With Type K Neck



Angle



Dome



Shallow Bowl



Bowl

Cat. No.	Diam., in. R L M Dome	Watts	List price	Cat. No.	Diam., in. Bowl	Watts	List price
14025–N	10	25–40	$1.25	12025–N	5	25–40	$1.10
14050–N	12	50–60	1.80	12060–N	7	50–60	1.50
14075–N	12	100	1.90	12075–N	8¼	100	1.60
14100–N	14	150	2.20	12100–N	9	150	1.80
14200–N	16	200	2.60	12200–N	10	200	2.20
Angle				Shallow Bowl			
15040–N	7	25–40	1.15	11050–N	10	25–40	1.25
15060–N	8	50–60	1.45	11060–N	12	50–60	1.45
15075–N	8	100	1.45	11075–N	12	100	1.70
15100–N	10	150–200	1.95	11100–N	15	150	2.50

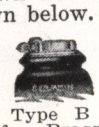
Std. pkg. is 10 on 25–200 watts; 5 on 300–1000
Schedule 2

Types of Holder

Reflectors shown above can be supplied with any of the holders shown below.



Type A for Benjamin Ben-ox Devices



Type B for Brass Shell Sockets



Type P for Porcelain Sockets



Type S for Benjamin Benco Devices

(Continued on Next Page)

Heavy Duty Gas and Vapor Fixtures

N.E.C. Std. These heavy duty fixtures are gas, vapor and weatherproof. Gaskets seal the interior against the entrance of gas or vapor from either the conduit line or the surrounding atmosphere. Recommended in powder mills, chemical plants, benzol plants, oil refineries, grain elevators.



With Dome Reflector

Porcelain-enameled steel reflector finished green outside and white inside with heavy 2-piece cast hood, tapped ½ in. Threaded enclosing globe of clear glass and porcelain socket.

Cat. No.	Lamp, watts	Diam., in.	List price
6500	100	12	$ 8.00
6501	150	14	8.25
6502	200	16	9.00
6503	300, 500	18	13.00

Std. Pkg. is 10 on 100–150 watts; 5 on 200–500 watts units

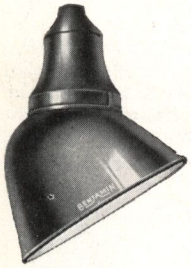
With Bowl Reflector

Porcelain-enameled steel reflector finished green outside, white inside with heavy cast hood, tapped ½ in. Threaded enclosing globe of clear glass and porcelain socket.



Cat. No.	Lamp, watts	Diam., in.	List price
6506	150	9	$ 7.90
6507	200	10	8.80
6508	300, 500	12	12.60

Std. Pkg. is 10 on 150 watts; 5 on 200–300–500 watt units



With Symmetrical Angle Reflector

Same as above except for symmetrical shape of reflector, which is designed for lighting from the side.

Cat. No.	Lamp, watts	Diam., in.	List price
6510	150, 200	10	$ 9.00
6512	300, 500	12	13.15

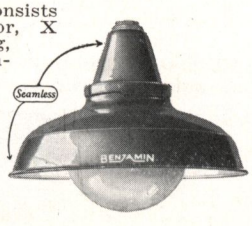
Std. Pkg. is 5

"1500 Series" Gas and Vapor Proof Equipment

N.E.C. Std. A new line of one-piece seamless gas and vapor proof reflector units, with separable fitting, porcelain socket and heavy glass inclosing globe. Asbestos gasket seals joint between reflector neck and globe. Fitting tapped for ½-in. conduit. Reflectors are of acid-resisting Crysteel, porcelain enamel, finished green outside, white inside. Tapped for ½-in. conduit; ¾ in. if specified.

With Dome Reflector

For good general illumination. Consists of porcelain-enameled steel reflector, X type weatherproof separable fitting, porcelain socket and screw glass enclosing globe.



Cat. No.	Lamp, watts	Diam., in.	List price
1582	100	12	$ 6.00
1584	150	14	6.75
1586	200	16	8.25
1588	300, 500	18	10.75

Std. Pkg. is 10 on 100–150 watts; 5 on 200–300–500 watt units

With Bowl Reflector



Advantageous for local lighting of machines and benches. Porcelain-enameled steel reflector, heavy X type weatherproof separable fitting, porcelain socket and screw glass enclosing globe.

Cat. No.	Lamp, watts	Diam., in.	List price
1590	150, 200	10	$ 7.00

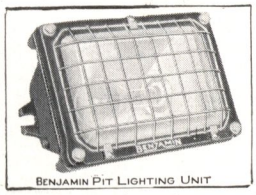
Std. Pkg. is 5

Shock Absorbing Lamp Holders

Shock absorbing sockets which lengthen lamp life can be supplied at a slight advance in price over standard rigid socket.

Pit Lighting Fixture

N.E.C. Std.



BENJAMIN PIT LIGHTING UNIT

A gas and vaporproof unit especially suitable for lighting automobile or railroad service and repair pits. Suitable for either built-in or surface installations. New refracting glass cover concentrates a major portion of light on the underside of the vehicle over the pit. Consists of cast iron box and cover frame. Fixture cover is heat-resisting glass and can be supplied in either Refractor or Plain Glass type. Glass cover mounted in cover frame is protected from breakage by a heavy, tinned wire guard. Reflecting surface is porcelain enamel. Boxes tapped for ½-in. conduit at both ends.

Cat. No.	Size of lamp, watts	Glass cover	List price
5710	100–150	Plain	$24.00
5715	100–150	Refracting	24.00

Std. Pkg. is 1 Schedule 2

Vapor Proof Projectolite



N.E.C. Std.

For uniformly lighting straight or rounded surfaces from a grazing angle. Vaporproof construction makes it particularly suitable for installation in hazardous locations. The powerful floodlight beam of the unit is broadened and flattened by a special lens which directs the greater amount of light to a point farthest from the light source and with a correspondingly smaller amount on the surfaces close to the unit. This makes for even illumination.

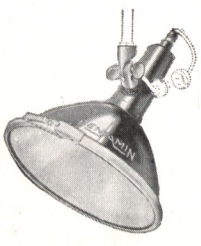
Construction—Copper reflector with heat-resisting lens, double felt gasket and metal cover band. Furnished with 10 ft. wire leads; all wiring enclosed. Inside finish is chromium; outside is green lacquer.

Cat. No.	Lamp, watts	Desc.	Std. pkg.	List price
5613	300	Tapped ½″	1	$20.00

Schedule 4

The Intensifier

N.E.C. Std.



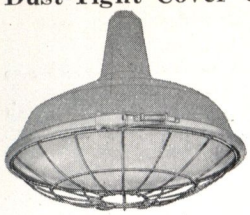
A supplementary lighting unit designed to illuminate small areas to higher intensities than furnished by the general illumination.

Reflector of heavy-gauge metal with steel neck containing keyless easy-to-wire socket and focusing apparatus. Dust-tight cover seals interior of intensifier. Outside finish is green paint lacquered; inside is chromium plated. Fitting tapped ½ in.

Cat. No.	Lamp, watts	Glass cover	List price
5603	60, 100	Clear	$ 11.75
5604	150, 200	Frosted	15.00

Std. Pkg. is 1 Schedule 4

Dust-Tight Cover Guard



Made to protect dust-tight covers from breakage. Easily installed—four lugs fitting into the cover band hold guard securely. Constructed of heavy gauge steel wire with welded joints. Heavily tinned to prevent corrosion.

Cat. No.	List price	Diam., in.	Std. pkg.
1445	$ .90	12	5
1446	1.20	14	5
1447	1.60	16	5
1448	2.00	18	5

Schedule 2

Sign Reflector



N.E.C. Std. The new Benjamin Sign Reflector is easily installed—no conduit bends between reflector and sign. Easily wired, inconspicuous on the board and simple to clean. Shadows and scallops are eliminated along top of board due to the long straight line cut-off and the Benjamin elliptical shape. Reflector is of Crysteel porcelain enameled steel, white inside, green outside. Tapped for ½ in. conduit entrance.

No.	Watts	Std. pkg.	List price
5570	100–150	9	$4.20
5571	150–200	9	4.80

Schedule 2

Warning Signal Lighting Fixture

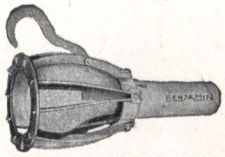


N.E.C. Std. A combination warning signal and lighting unit. A 3½-in. corrugated ruby glass lens is mounted in the back of the elliptical angle porcelain enameled steel reflector. Porcelain socket and heavy separable fitting tapped for ¾-in. conduit.

Cat. No.	Lamp, watts	Std. pkg.	List price
32613	25–40	5	$5.50

Schedule 2

Fibre Portable Hand Light



N.E.C. Std. A non-conductive, 8-oz. shockproof, fibre portable light with adjustable hook. Socket floats on four flexible springs.

Cat. No.	Lamp, watts	Description	List price
158	25–60	Keyless	$2.30
160	25–60	Key	2.40

Std. Pkg. is 5 Schedule 6

Heavy Duty Attachment Plug



903

N.E.C. Std. A practical, heavy-duty plug with a swiveling shell for convenient attachment to any medium base socket.

Cat. No.	Bushing Opening	Std. pkg.	List price
903	13/32″	100	.15
916	25/64″ to 35/64″	10	.80

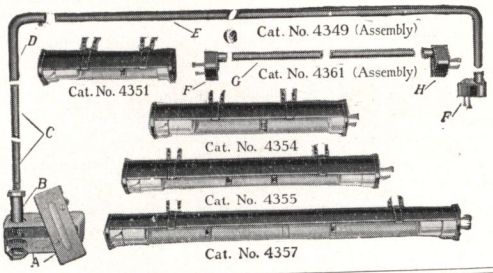
Schedule 9



916

Show Case Lighting Fixtures

A simple form of sectional construction which makes installation unusually easy on any type of show case. Lamp sections are made in a variety of lengths, so a combination is obtainable to fit any length of show case. A link section which can be cut and bent to fit permits extension around curved positions of the case. Straight sections are joined electrically and mechanically by simply tightening two machine screws. The unique separating socket permits burned out lamp to be easily replaced. Construction complies with rules requiring grounding or polarization. Standard sections are dark bronze outside; lamp sections are aluminized inside. Takes T-10 tubular lamps.



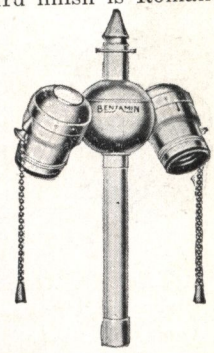
Cat. No.	Descrip.	No. of Lights	List Price	Cat. No.	Descrip.	No. of Lights	List Price
4351	8½″ Sect.	1	$3.75	4338	30″ Sect.	4	$7.75
4354	12″ Sect.	1	4.00	4339	34″ Sect.	4	8.00
4355	16″ Sect.	2	4.50	4361	18″ Link Sect.	..	2.00
4357	22″ Sect.	2	4.70	4349	Rear Entrance	..	3.50

Std. Pkg. is 5 Schedule 5

Adjustable Stand Lamp Clusters

Especially suitable for fine stand lamps using silk or parchment shades. Two or three adjustable pull chain sockets attached. Sockets are spaced appropriately and are adjustable to any angle. Standard finish is Roman gold; all other finishes are special.

Can be furnished with body only or complete including stem, with casing and ¼-in. coupling, and top ornament. Length, approximately 7¾ in. from shade support to bottom of coupling. When furnished without stem, body has bottom bushing tapped for ¼-in. pipe.



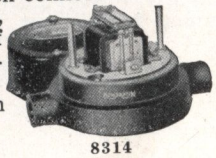
Cat. No.	No. of Lights	Description	Std. pkg.	List price
890	2	Cluster complete	5	$1.95
891	3	Cluster complete	5	2.70
880	2	Body only	5	1.50
881	3	Body only	5	2.25

Schedule 1

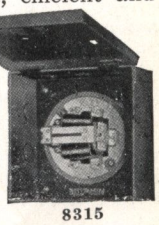
Telecode Relays

In factories, foundries, machine shops and wherever there is a great volume of noise, the ordinary telephone bell can seldom be heard. The Telecode Relay utilizes Benjamin industrial howlers on any type of telephone system. The telephone ringing and talking efficiency is in no way affected.

The Telecode Relay is a very sensitive, efficient and quick-acting circuit-closing unit, standard with open-circuit contacts. It can be had with back-connections for panel mounting, with weatherproof conduit-fitting mounting, or with 6x6-in pressed steel box with knockouts.



8314



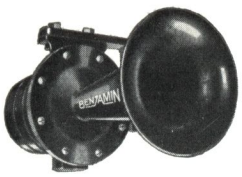
8315

Cat. No.	Description	List price
8313	Panel Mounting	$12.00
8314	½″ Conduit Mtg.	14.50
8315	6″ x 6″ Steel Box	12.00

Schedule 10

(Continued on Next Page)

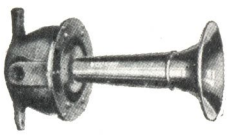
Industrial Signals (N.E.C. Std.)



Motor Driven Howler—Weatherproof signals of remarkable carrying and penetrating power. For use in such locations as steel mills, railroad shops, on cranes, foundries, cotton mills and machine shops, where a signal system must compete for attention with excessively loud manufacturing noises. Std. voltage—110 volts, 60 cycles A. C. or 110 volts D. C. Other voltages are special.

Cat. No.	Type	List Price
8175	Single projector A. C. motor-driven signal	$35.00
8176	Single projector D. C. motor-driven signal	35.00
8180	Double projector A. C. motor-driven signal	38.75
8181	Double projector D. C. motor-driven signal	38.75

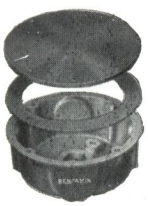
A. C. Weatherproof Howler—An industrial signal with a strong penetrating pitch which is easily audible above the average industrial noises. May be operated on series or multiple circuits. Std. voltage—110 volts, 60 cycles. Other voltages are special.



Cat. No.	Description	Price
8346-H	Inclosed wiring	$12.50

Schedule 10

Water Tight Junction Boxes



Standard Type—4½″ Diameter—1½″ Deep—For heavy-duty industrial and marine use—with plain cover and gasket. Furnished in key or keyless type. Key boxes are supplied with watertight stuffing box and plunger key for operating key receptacles and switches.

Cover is supplied in brass or iron; rubber gasket makes water tight connection between cover and box. Furnished not tapped unless specified. See tapping diagram.

Cat. No.	Type of box	Material	Description	List Price
6700	Keyless	Brass	Box, cover and gasket	$2.05
6701	Keyless	Iron	Box, cover and gasket	1.05
6702	Key	Brass	Box, cover and gasket	2.55
6703	Key	Iron	Box, cover and gasket	1.55

Deep Type Junction Box—4½″ Diameter—2¼″ Deep—Deep junction or outlet boxes are designed for concealed conduit work, therefore side boss for plunger key stuffing box is not provided.

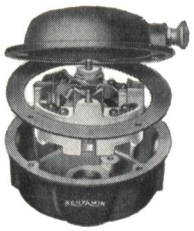
Cover is iron; rubber gasket makes water tight joint between cover and box. Furnished not tapped unless specified. See tapping diagram.



Cat. No.	Type of box	Material	Description	List Price
6705	Keyless	Iron	Box, cover and gasket	$1.15
6913	Keyless	Iron	Junction box only	.70

Schedule 10

Water Tight Switches



Double Pole Toggle Switch—N.E.C. Std.

30 amps., 125 volts—20 amps., 250 volts.

Double-pole toggle switch with standard water tight junction box. Sturdily constructed with plunger key control.

Standard 4½ in. water tight outlet box supplied in either brass or iron. Cover is of brass furnished with water tight stuffing box and plunger key. Furnished not tapped unless specified. See tapping diagram.

Cat. No.	Kind of box	Description	List Price
6878	Brass	Complete, with box	$6.40
6877	Iron	Complete, with box	5.70
6876	Brass	Cover, with switch only	5.00

Water Tight Plug Receptacle

Single Screw Base—N. E. C. Std.

660 watts—250 volts.

Edison base receptacle of high heat molded composition. Plug makes water tight connection to receptacle. 4½-in. watertight outlet box of either brass or iron; cover is brass. Furnished not tapped unless specified. See tapping diagram.



Cat. 6766

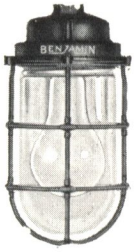


Cat. 6719

Cat. No.	Kind of box	Type of receptable	Description	List price
6716	Brass	Keyless	Complete, less plug	$4.00
6717	Iron	Keyless	Complete, less plug	3.30
6718	Brass	Key	Complete, less plug	5.40
6719	Iron	Key	Complete, less plug	4.70
6766			Plug only	2.50
6767			Plug only	2.50

Schedule 10

Gas and Vapor Proof Drop Fixture



N.E.C. Std.

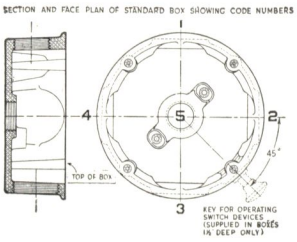
Consisting of a cast brass body, tapped for ½ inch conduit suspension, a heavy brass guard, screw glass globe and a molded composition receptacle.

For 25 to 100-watt lamps.

Cat. No.	Type of receptacle	List price
6830	Keyless	$6.10
6832	Key	7.50

Schedule 10

How to Specify Tapping



Benjamin water tight outlet boxes have four bosses, spaced 90° which can be tapped for ½, ¾, or 1-in. conduit. A ½ or ¾-in. entrance may be tapped in bottom of box. No charge is made for tapping when the sizes and number of conduit entrances accompany order.

For convenience in specifying, a simple code has been adopted under which entrances as shown in the diagram above, are marked for position only as 1, 2, 3, 4, and 5. In specifying, start at entrance 1 and give size of tapping desired. Similarly, specify the size of each entrance in turn.

IMPROVED LINE OF BENJAMIN-STARRETTP ANELBOARDS AND CABINETS

The Benjamin-Starrett Panelboard, long recognized as a pioneer in the field of moulded base sectional construction, continues its leadership with this new and improved design. This new line is complete and offers a suitable panel type to meet the distribution requirement of residential, commercial or industrial buildings.

The outstanding features of this new line, which are explained below, result in a panel which is extremely easy to install, is attractive in appearance, long lived and economical to maintain.

Features

Sectional Construction—Panels are built up on steel panel back of moulded composition sections which are individual for one 2-fuse circuit or two 1-fuse circuits. All sections are of standard design, assuring complete interchangeability.

One-piece Steel Panel Back—Steel panel back acts as a rigid support for individual panel parts, guarding them against breakage during installation.

Slip-over Detachable Barrier—Steel barrier can be removed without the use of tools of any kind.

Adjustable Panelboard Support—Panels are provided with adjustable mounting stud so that panel adjustment may be made both in and out laterally.

Adjustable Trim Anchor—Adjustable trim anchor allows flush mounting of trim even where edge of box is below plaster line. Also allows plumbing of trim when box is out of alignment.

Ample Wiring Gutter—Full 4-in. wiring gutter on all sides of panel.

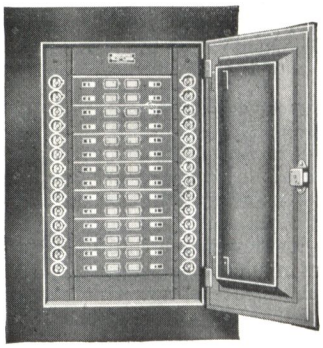
Heavy-duty Tumbler Switch—Underwriters, approved, 30-ampere, 250-volt, heavy-duty tumbler switches in both double and single-pole. Removable from front without taking off trim.

Finish—All metal parts are rust-proofed.

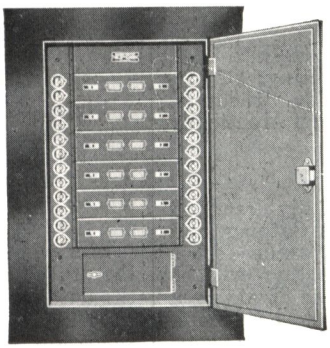
Metal Protective Shield—Thoroughly grounded on all safety and some protective types of panel. Guards the operator and improves appearance of panel.

Fuse Receptacles—Individual units can be removed from front of panel without removing trim.

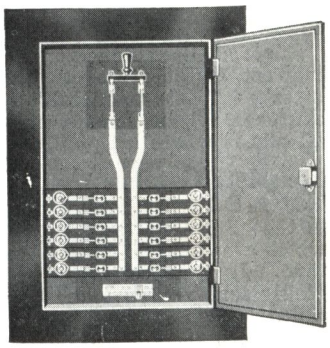
Standardized Sizes—Boxes are standardized for lighting panels and carried in stock for immediate shipment.



One-fuse Safety Type



Two-fuse Protective Type



One-fuse Open-front Type

Benjamin-Starrett Panelboards and Cabinets

One-fuse Panels

Type NSPT—Safety front type; tumbler switches; arranged for plug fuses.

Type NSCT—Safety front type; tumbler switches; arranged for cartridge fuses.

Type NLP—Protective front type; arranged for plug fuses only.

Type NLPT — Protective type; tumbler switches; arranged for plug fuses.

Type NOC—Open front type; arranged for cartridge fuses only.

Type NOCT — Open front type; tumbler switches; arranged for cartridge fuses.

Type NOPK—Open front type; knife switches; arranged for plug fuses.

Type NOCK—Open front type; knife switches; arranged for cartridge fuses.

Two-fuse Panels

Type SPT — Safety front type; tumbler switches; arranged for plug fuses; 2 and 3-wire types.

Type SCT — Safety front type; tumbler switches; arranged for cartridge fuses; 2 and 3-wire types.

Type LP — Protective type; arranged for plug fuses only; 2 and 3-wire types.

Type LPT — Protective type; tumbler switches; arranged for plug fuses; 2 and 3-wire types.

Type OC — Open-front type; arranged for cartridge fuses; 2 and 3-wire types.

Type OCT — Open front type; tumbler switches; arranged for cartridge fuses; 2 and 3-wire types.

Type OPK—Open front type; knife switches; arranged for plug fuses; 2 and 3-wire types.

Type OCK—Open front type; knife switches; arranged for cartridge fuses, 2 and 3-wire types.

GENERAL SERVICE PANELS WITH CABINETS

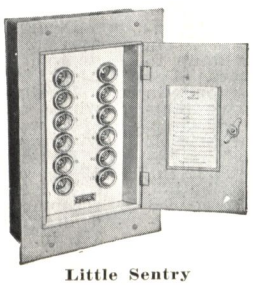
A line of standardized panelboards which meet all the requirements of the average residence, store, small factory, or warehouse.

Little Sentry Panels

Furnished in 4 to 12-branch circuits.

Type NP for 3-wire service; 1-fuse branches; 3-wire mains; plug fuses only. Also furnished with cabinet arranged for switch plates.

Type P for 2 and 3-wire service; 2-fuse branches; 2 and 3-wire mains; plug fuses only.



Little Sentry

Type "G" Panels

Furnished in 4 to 20-branch circuits.

Type NCG for 3-wire service; 1-fuse branch; 3-wire mains; arranged for cartridge fuses only.

Type CG for 2 and 3-wire service; 2-fuse branches; 2 and 3-wire mains; cartridge fuses only.

Type NPG for 3-wire service; 1-fuse branch; 3-wire mains; plug fuses only.

Type PG for 2 and 3-wire service.

Pittsburgh Reflector Company

Manufacturers of Silvered Glass Reflectors

304 Ross Street, Pittsburgh, Pa.

(Adequate factory stocks are maintained at all the following points to assure prompt service.)

Branch Offices

NEW YORK, N. Y.....515 General Motors Bldg.
CHICAGO, ILL.....549 W. Washington St.

Factory Representatives

ATLANTA, GA.....Whitman & Kethley, Bona Allen Bldg.
BALTIMORE, MD.....W. B. Masland Co., 105 E. Franklin St.
BOSTON, MASS.....Detweiler-Bell Co., 101 Milk St.
BUFFALO, N. Y.....H. H. Mallon, 350 S. Elmwood Ave.
CINCINNATI, OHIO.....H. C. King, 622 Broadway
CLEVELAND, OHIO.....Handel-Davies Co., 202 Chester-Twelfth Bldg.
DALLAS, TEX.....Lighting & Specialty Co., 2205 Leonard St.
DENVER, COLO.....Wesco Co., 7th and Lawrence Sts.
DETROIT, MICH.....J. D. Carr, 137 E. Elizabeth St.
INDIANAPOLIS, IND..Scott-Jaqua Co., 202 Indiana Terminal Warehouse, 31 E. Georgia St.
KANSAS CITY, MO.....Mervin Simons, Keystone Bldg., 1320 Main St.
LOUISVILLE, KY..Nicholson Electrical Sales, 214 Keller Bldg.
LOS ANGELES, CALIF.....Frank E. Hastings 210 Transportation Bldg., 7th and Los Angeles Sts
MILWAUKEE, WIS.....A. J. Singer, 315 National Ave.
PHILADELPHIA, PA.....A. Hopkin, Jr., Co., 235 S. 8th St.
SALT LAKE CITY, UTAH.....Raymond Ackerman, 318 Dooly Block
SEATTLE, WASH.....L. D. Morgan, 240 Securities Bldg.
ST. LOUIS, MO., McDonnell-Wacker Co., 2647 Washington Blvd.
ST. PAUL, MINN.....C. O. Kindy, 1236 Lincoln Ave.
CALGARY, CAN.....Cochrane, Stephenson & Co., 813 Lancaster Bldg.
TORONTO 2, ONT., CAN.....Wilson Illumination Co., 186 Adelaide St. W.
VANCOUVER, B. C., CAN.....Cochrane, Stephenson & Co., 707 N. West Bldg.
WINNIPEG, MAN., CAN.....Cochrane, Stephenson & Co., 602 Avenue Block

Products

Silvered Glass Reflectors for Show Window, Industrial, Indirect, Outdoor, Cove, Spot and Floodlighting; "Color-Lites"; "Easy-to-Install" Conduits; for theatres, churches, schools, banks, public buildings and practically all places where lamps are used.

Complete Catalog

More than 70 different units, which are fully described in the "Permaflector" August, 1928 Pocket Catalog, and which was mailed to the entire electrical trade at the time. If your copy has been mislaid, another will be gladly sent you on request. For the purpose of aiding a contractor when in conference with an architect the complete Permaflector Catalog has been included in Sweets' Catalog—a publication on file in every architect's office.

"Pittsburgh" "Permaflectors"

The silvered glass reflectors with the **permanent** reflecting surface—made only by Pittsburgh Reflector Co. They are of finest quality crystal glass, clear and sparkling, in one piece, and blown in our own factory—where glass is made for no other purpose—that we may control every step of the glass making.

Each reflector is double plated with pure grain silver over which is laid a thin sheet of copper, sealing the silver between the copper and the glass.

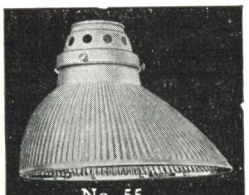
Finish—The silver color satin finish is distinctive in appearance, less conspicuous, harmonizing better with the various colors found in show window ceilings and backgrounds, is suggestive of light, silver and glass, and unlike the ordinary enamel backing, will not darken under the heat of the Type "C" lamp.

Thirteen Year Record—Not even one in 100,000 of all the "Pittsburgh" reflectors made since August 1, 1916—the date we began using this process, now thirteen years ago—has ever been reported to us as having the silvered reflecting surface tarnish or discolor, or the backing crack, peel or check.

Guarantee

We absolutely and unconditionally guarantee that the backing on "Pittsburgh" Permaflectors will not crack, check nor peel and that the silvered reflecting surface will not tarnish for a period of ten years from date of purchase.

The Principal "Permaflectors" for Show Window Lighting



"Permaflector" No. 55

For medium size shallow, high trim and island windows. For border strips on stages, indirect side walls, urns and coves, side walls of galleries when placed over skylights. Concentrating (light cuts off between 65 and 70°). Reflectors usually spaced 12 in. c. to c. for uniform distribution of light. Center of receptacles should be located 6 in. o.c. from glass—minimum 3½ in.



"Permaflector" No. 110

For low, deep show windows, 3 to 7 ft. high, in which trim is carried up to the level of reflectors. For wall cases, interior bulletin boards, paintings, cove lighting in theaters, churches, etc. Concentrating (light cuts off between 75 and 80°). Reflectors usually spaced 12 in., o.c. for uniform distribution. Receptacles should be spaced 5½ in. from glass—minimum 3½ in.



"Permaflector" No. 100

Designed particularly for average windows having a depth of ½ to ¾ their height. Light flux covers 0 to 90°.

Ideally suited for windows where trim is carried high, also works well in deeper windows.

Reflector should be spaced 12 in. o.c. for uniform distribution of light. Center of receptacle should be located 6 in. from glass—minimum 3¾ in.



"Permaflector" No. 51

Especially designed for high shallow windows, medium high trim, island windows or windows with upper part of background of glass.

Concentrating (light cuts off sharply on the 55° line).

Reflectors should be spaced 12 in. o.c. for uniform distribution of light.

Center of receptacle should be located 5½ o.c. from glass—minimum 4 in.

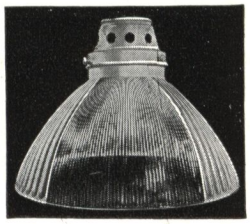
For Specifications of "Permaflectors" see Table on Following Page

The Principal "Permaflectors" for Show Window Lighting (Continued)



"Permaflector" No. 52

For same general class of windows as No. 51, but designed for inserting in ceiling. Bottom of reflector is level and can be installed flush with ceiling. Reflectors should be spaced 12 in. o.c. for even distribution of light. Center of receptacles should be located 5½ in. from glass—minimum, 4 in.



"Permaflector" No. 102

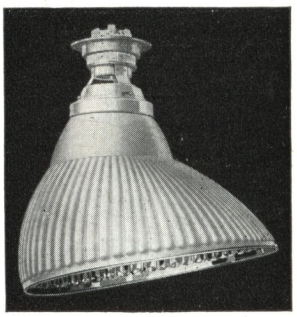
For dual service—lighting both the window display and a transparent sign such as those painted along the top edge of plate glass windows.

To provide even lighting of the sign, the installation instructions given on page 27 of the August, 1928 Pocket Catalog must be followed.



"Permaflector" No. 500

For exceptionally large deep windows over 8 ft. high where trim is carried high and where high intensity lighting is necessary.



"Permaflector" No. 551

For exceptionally high windows (not less than 8 ft.) where high intensity lighting is necessary. Light distribution similar to No. 51. Reflectors 500 and 551 should be spaced 15 in. o.c. which will permit burning each alternate unit without producing uneven light distribution in show window. Center of receptacles should be located 6 in. from glass.

SPECIFICATIONS OF "PITTSBURGH" "PERMAFLECTORS"

Cat. No.	Dimensions, in. Height	Width	Front to back	Center to back	Wattage of lamps to use: Inside frosted	Clear	Carton	Std. pkg. Quan.	Wt., lb.	†List price, each
55	5 1⁵⁄₁₆–6 1¹⁄₁₆	....	8½	3⅛	*100	150	8	32	54	$4.25
110	7 ¼ –8	....	7 3¹⁄₃₂	3³⁄₃₂	*100	150	10	32	52	4.25
100	8 7⁄₁₆–9 1¹⁄₃₂	9⅛	8½	3⅝	....	100, 150, 200	8	40	98	4.50
51	8 ⅛ –9 ¹⁄₃₂	9⅜	9⅝	3⅞	....	100, 150, 200	8	32	96	5.00
52	7 17⁄₃₂–8 7⁄₁₆	9	9½	3½	....	100, 150, 200	8	32	96	5.00
102	8⅛	9⅞	9½	4	*100	.....	8	32	96	5.50
500	14⁷⁄₃₂	12	12⅜	5⁷⁄₁₆	....	300, 500	1	8	92	12.50
551	14⁷⁄₃₂	12	12⅞	4⅝	....	300, 500	1	8	94	12.50

*Type A-23. †Price includes one adapter. Prices f.o.b. Irwin, Pa.
Holders, 2¼ in. Form "O", except 500 and 551 which are regularly furnished complete with holder, mogul socket and cover for 4-in. outlet box.

FLUSH RINGS

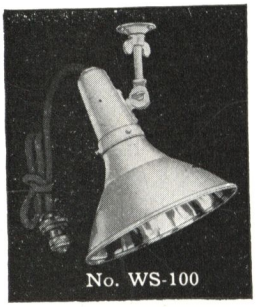
No.	For "Permaflector" No.	Std. pkg.	Price	No.	For "Permaflector" No.	Std. pkg.	Price
100	100	40	$ .80	551	551	8	$1.75
52	52	32	.80	55	110	40	.75
500	500	8	1.75	55	55	40	.75

"Permaflectors" "Windo-Spots" and "Windo-Flood"

For high lighting with clear or colored light those portions of window displays to which it is desired to draw special attention. "Windo-Spots" and "Windo-Flood" are simply auxiliary lighting equipment and are not intended as the sole sources of show window illumination.

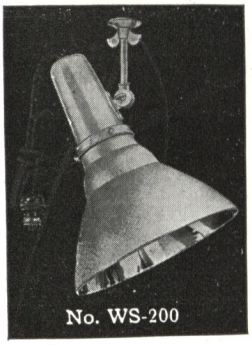
Also useful for reducing daylight reflections and many other special applications, especially where intense illumination is desired over a limited area.

"Windo-Spot" No. 100—"Windo-Spot" No. 100 throws a flood of white (or colored) light with a strong central beam. Simple in construction, light in weight and portable. Easily attached to ceiling, wall or floor, by means of screws or bolts, or may be used as a portable when mounted on base. Wing nut on supporting stem allows horizontal adjustment; thumbscrews at bracket joint is for vertical adjustment. Designed for use with 100-watt A-23 (inside frosted) lamp only. Diameter of reflector, 8¼ in. Overall height, inclusive of socket and holder, 9 in. Packed 1 to the carton, 8 cartons to the standard package. Weight standard package, 56 lb.



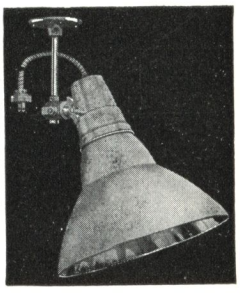
List price, each
Complete with 3 ft. cord and plug $7.00
Complete, with "Color-Lite" No. 5 (includes red, blue, green, amber gelatines)... 9.25
Glass only 3.00
F.o.b. Irwin, Pa.

"Windo-Spot" No. 200—Throws a flood of white (or colored) light with a strong central beam which has a maximum candlepower of 18,000 and is equivalent to 90 apparent candlepower per watt—a very unusual achievement in reflector design. Like the No. 100 "Windo-Spot," it is light in weight, portable, and can be easily attached to any vertical or horizontal surface by means of bolts or screws. By loosening large wing nut at the top, the supporting stem may be rotated; by loosening the smaller wing nut at the bracket joint, the reflector may be tilted up or down. Designed for use with 200-watt lamp. Diameter of reflector, 10 in. Front of reflector to back of socket, 12 in. Packed 1 to the carton, 8 cartons to the standard package. Weight, standard package, 60 lb.



List price, each
Complete, with 4 ft. of cord and plug $10.00
Complete, with "Color-Lite" No. 1 (includes red, blue, green, amber gelatines). 12.50
Complete, with "Color-Lite" No. 2 (includes one color glass only) 12.50
Glass only 5.00
F.o.b. Irwin, Pa.

"Windo-Spot" No. 500—For show window lighting where a more intense beam is desired than is possible to secure with "Windo-Spot" No. 200. Accommodates either 300 or 500-watt clear lamp, giving a very concentrating beam of light similar to No. 200, but with an apparent candlepower of more than 100 per watt. Equipped with an adjustable bracket for attaching to ceiling of show window or other supporting surfaces. Universal motion of reflector may be obtained by loosening both the large and small thumbscrews. Diameter of reflector, 13½ in.; height overall, (including bracket) 18 in. Packed 1 to the carton, which constitutes the standard package weighing 12 lb.



List price, each
Complete with 5 ft. of armored cable and plug..... $22.00
Glass only 12.00
F.o.b. Irwin, Pa.

"Windo-Flood" No. 200—Differs from "Windo-Spot" only in design of reflector which throws a broader flood of white (or colored) light, but with a central beam of less intensity. The number installed in a show window depends largely upon the psychological effect which displayman is trying to produce. In general, it is well to provide two in each window as an auxiliary to the regular show window lighting. Designed for use with 200-watt lamp only. Maximum apparent candlepower, 22½ per watt. Diameter of reflector, 10 in. Packed 1 to the carton, 8 cartons to the standard package. Weight, standard package, 60 lb.



List price, each
Complete, with 4 ft. of cord and plug $10.00
Complete, with "Color-Lite" No. 1 (includes red, blue, green and amber gelatines) 12.50
Complete, with "Color-Lite" No. 2 (includes one color only) 12.50
Glass only 5.00
F.o.b. Irwin, Pa.

Portable Base — For use with either "Windo-Spot" No. 200 or "Windo-Flood." Made of cast iron; diameter of base, 8 in.
List Price, each.....F.o.b. Irwin, Pa.....$1.25

REFLECTOR & ILLUMINATING CO.

ESTABLISHED 1912

REPRESENTATIVES IN ALL PRINCIPAL CITIES

Manufacturers and Engineers; Makers of Sterling Reflectors and a Complete Line of Other Scientifically Designed Lighting Products

1401-1417 West Jackson Boulevard, Chicago, Ill.

Products

Reflectors for Show Window, Show Case and Wall Case Lighting, and Floodlights for Show Window and all forms of Display Lighting; Show Window Footlights; Color Attachments for Show Window and other forms of Display Lighting; Reflectors for Indirect Lighting, such as Cove Lighting in theatres, lodge halls, banks, churches, etc. Reflectors for Industrial Lighting such as in factories, warehouses, shops, garages, gymnasiums, etc.

Floodlights for Floodlighting Building Exteriors, Monuments, Signs, Storage Spaces and for Night Construction Work and Protection Lighting.

Wiring Channel for attractive Show Window Reflector installations and all kinds of Outline and Border Lighting.

Special Reflectors for all purposes

Sterling Stipple Reflectors

Sterling Reflectors are the result of years of scientific research, careful study and engineering skill to produce an improved type of reflector that would provide increased efficiency in distribution of light, promote greater economy and render more satisfactory results in illumination of show windows, display cases, interiors, exteriors, and all forms of display lighting.

Guarantee

Sterling Reflectors are sold under a bona-fide guarantee that they will give lasting service and absolute satisfaction. If for any reason the finish of any *Sterling* Reflector should check, peel, tarnish or discolor, or otherwise prove unsatisfactory through any fault that may be attributed to the materials or workmanship, it will be replaced without charge.

NEW DISPLAY LIGHTING EQUIPMENT



Sterling LUM-N-ART for Picture Lighting in the Home

LUM-N-ART fills a long felt need by making available for the first time a picture-light of correct size, striking appearance, and guaranteed efficiency at surprisingly low cost.

LUM-N-ART is easily mounted and has a wide range of adjustment. Regularly finished in rich Gold Moderne. Special finishes supplied on request.

Unit comes equipped with 10-ft. silk-covered connecting cord and separable plug. Uses standard T6½, 25-watt, intermediate screw base tubular Mazda lamp.

Mfrs. No.	Std. pkg.	List price, each
6501	1	$6.50

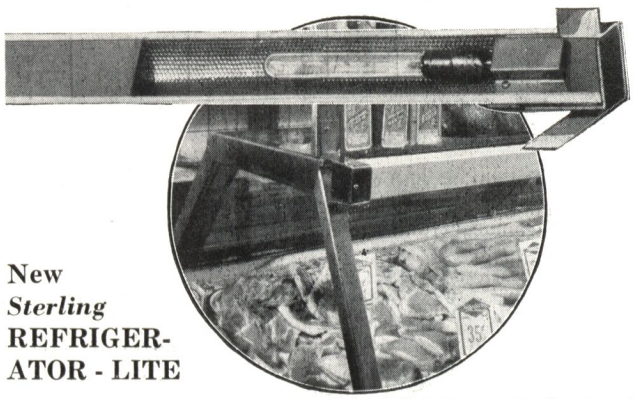
New FLOOD-O-LITE Senior for 500-watt Lamps



This new Spot Light has a concentrated beam strong enough to *penetrate* the highest intensity of general illumination used in window displays. It "spots out" and accentuates objects in a manner that is tremendously valuable in stimulating sales.

New, improved design of universal adjustment. Equipped with *Sterling* guaranteed silvered glass reflector, for 300-500-watt PS Lamps, and flange base for attachment to walls, ceilings or transom bars.

Mfrs. No.	Std. pkg.	List price, each	Color-Lite attachment
4010	1	$20.00	Extra



New *Sterling* REFRIGERATOR - LITE

A new, modern, and highly efficient lighting unit of correct size and design for illuminating refrigerator display cases. Made to order in lengths to fit refrigerator cases of any size perfectly. Does not obstruct the view and is not conspicuous.

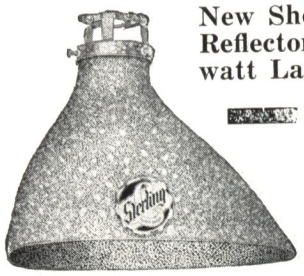
Mfrs. No.	Dimensions, in.			Lamp	Reflector
	Length	Height	Width		
6518	To fit case	1¾	1¾	25 watt T-6½ Tubular Lamp	*Sterling* Stipple Processed Chromium-Plated Copper

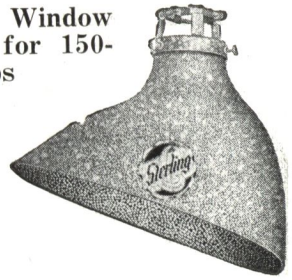
List price per foot (Sockets on 18″ centers) $4.00

No. 6512 Identical with No. 6518 except that sockets are 12″ centers

List price per foot $4.25

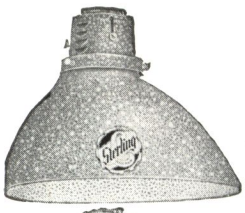
New Show Window Reflectors for 150-watt Lamps

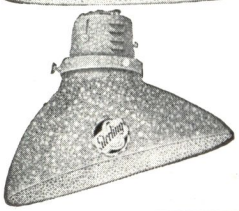




Specifically designed to meet the ever increasing demand for correct reflector equipment for popular 150-watt show window lighting installations. Reflectors 252 and 254 are individual, distinctive, wonderfully efficient, and give surprising results. Being made especially for 150-watt lamps they do not have to share their efficiency and consequently are most satisfactory and economical.

Mfrs. No.	Dimensions, in.			Holder	Std. pkg.	List price, each
	Height	Width	Depth (back to front)			
252	6 7/16	8 15/16	9 1/8	*Sterling*	12	$4.40
254	6 7/8	8 15/16	8 15/16	*Sterling*	12	4.40





REFLECTORS FOR DISPLAY LIGHTING

Reflector No. 251

For 150-200-watt Mazda "C" lamps. Produces a concentrated projection of light and is constructed for the purpose of serving shallow windows with medium trim.

Color-Lites are obtainable for this reflector. Holder included.

Reflector No. 253

For 150-200-watt Mazda "C" lamps. Especially designed to give uniform illumination over a wide area when the display is quite high and for all deep windows. Color-Lites are obtainable for this reflector. Holder included.

Mfrs. No.	Dimensions, in. Height	Width	Depth	Holder	Std. pkg.	List price, each
251	5 5/8	9 1/2	9 15/16	*Sterling* Adjust.	12	$5.00
253	6 1/16	9 1/2	9 7/16	*Sterling* Adjust.	12	5.00



Reflector No. 233

For new 75-100-watt "A" inside-frosted lamps. As in case of No. 231, this reflector also was especially designed for the new 75-100-watt "A" inside frosted lamps. Flush-mounting rings are obtainable for this reflector. No Color-Lite made for No. 233.



Reflector No. 231

For new 75-100-watt "A" inside-frosted lamps. Utilizes ot greatest possible extent the highly diffused light of new 75-100-watt "A" inside-frosted lamps. Flush-mounting rings are obtainable for this reflector. No Color-Lite made for No. 231.

Mfrs. No.	Dimensions, in. Height	Width	Depth	Holder	Std. pkg.	List price, each
233	6 1/2	7 3/8	7 17/32	*Sterling* (included)	12	$4.00
231	5 3/32	7 5/8	7 15/16	*Sterling* (included)	12	4.00

Reflector No. 403

For 300 or 500-watt Mazda "C" lamps. Provides a wide, powerful distribution of light and is desirable where high intensities are essential over a wide area or where conditions will not permit a large number of smaller reflectors.

Sterling Special Reflector Holder, mogul receptacle and box cover to fit regular 4-in. outlet box, is regularly supplied with this reflector.



Mfrs. No.	Dimensions, in. Height	Width	Depth	Holder
403	8 3/8	12	13 1/4	*Sterling* Special

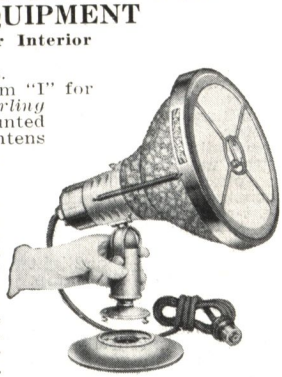
Std. pkg., 8. List price, each, $12.50

INTERIOR AND EXTERIOR FLOOD-LIGHTING EQUIPMENT

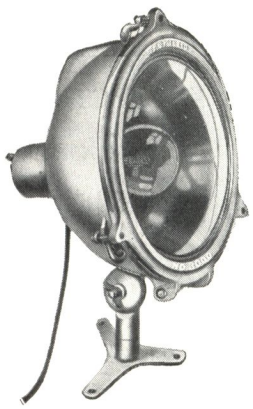
FLOOD-O-LITE, Jr. No. 3022 for Interior Spot and Flood Lighting

For 200-watt Mazda "C" lamps.

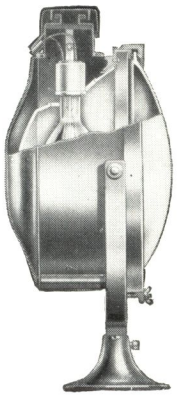
Form "C" for spot-lighting. Form "I" for flood-lighting. Equipped with *Sterling* silver-plated glass reflector mounted on portable base. Wing-nut tightens or loosens ball and socket joint, permitting adjustment of reflector to any desired position. FLOOD-O-LITE, Jr., is equipped with combination base which provides 7-in. weighted portable base for floor use or 3-in. flange base for attachment to wall, ceiling or transom bar. Furnished complete with *Sterling* Color-Lite, 5-foot extension cord and separable plug for connection to any ordinary electric light socket. Finished in rich Indian brown color.



Mfrs. No.	Color-Lite Attachments (Included)	Std. pkg.	List price, each
3011	Form "C"	1	$15.00
3022	Form "I"	1	15.00



For Exterior Flood Lighting



FLOOD-O-LITE, No. 3000

Accommodates 250 and 400-watt type "C" G-30 lamps. Built for long hard service and fully guaranteed.

No. 3000-C—Equipped with *Sterling* concentrating reflector permitting beam spread of from 6 to 25 degrees.

No. 3000-I—Furnished with *Sterling* stippled reflector to produce beam spread of 90 degrees.

Mfrs. No.	Std. pkg.	List price, each
3000–C	1	$35.00
3000–I	1	35.00

FLOOD-O-LITE, No. 5240

Built for long hard service. Designed for 300 to 1000-watt PS Mazda "C" lamps.

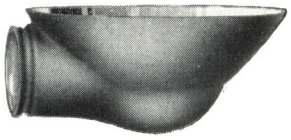
No. 5240-C—Equipped with *Sterling* concentrating reflector permitting beam spread from 6 to 25 degrees.

No. 5240-I—Furnished with *Sterling* stippled reflector affording a beam spread up to 90 degrees.

Mfrs. No.	Std. pkg.	List price, each
5240–C	1	$55.00
5240–I	1	55.00

DISPLAY CASE, COVE AND FOOT-LIGHTING EQUIPMENT





Sterling **FUT-LITE, No. 1710**

Trough construction with individual guaranteed *Sterling* stipple reflectors, two to each foot. Steel housing, concealed wiring and sockets. Made in any length desired. Accommodates 15 to 40-watt type "A" lamps, and 50-watt mill type lamps. Std. pkg., 1.

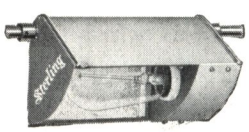
List price, per foot

Less than 5-ft. sections..... $9.00
Sections 5 ft. or longer..... 8.75

Reflector No. 239

For cove lighting and other special lighting installations. The distribution performance is highly concentrating and consequently very desirable for cove lighting. Std. pkg., 12.

Dimen., in. Height	Diam.	Holder (not included)	List price, each
3 1/16	6 3/4	Form "O"	$3.00



Sterling **KAS-LITE Unit No. 1700**

For display case lighting. Correct in size and beautifully finished in Statuary bronze to harmonize with the popular finishes of wood and metal. Uses 15-25-watt Type "A" inside-frosted and 50-watt mill type lamps. Std. pkg., 1.

List price each, without fittings, $5.00.



Sterling **KAS-LITE, Jr., No. 650**

A small show case fixture offering a minimum of visual obstruction with a maximum of light intensity. Designed for use with the new 25-watt T-6½ intermediate screw base tubular lamp. Std. pkg., 1.

List price each, without fittings, $2.50.

KLIEGL BROS

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

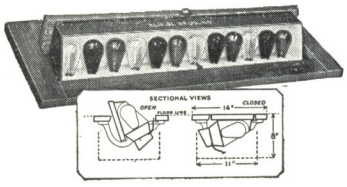
Theatrical, Decorative and Spectacular Lighting

321 West 50th Street, New York, N. Y.

A Complete Line of Lighting Specialties for Theatrical, Decorative and Spectacular Lighting

Footlights

Available in practically any form desired. Standard designs are made for lamps from 60 to 100 watts; semi-flush types for frequent use; disappearing types for use where footlights are only occasionally required.



No. 829

No. 829—Disappearing type footlight, for fifteen 60-watt or 75-watt Mazda lamps; single row of receptacles, spaced 3½ in. centers; wired for three two-wire circuits; with splice-box for making feeder connections; constructed so that when not in use they may be closed down flush with the stage floor; furnished complete in standard five-foot sections ready for installation.

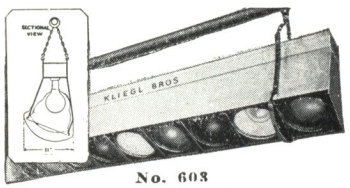
KLIEGL FOOTLIGHTS

No.	Description	Price	Code word
829	Single-row disappearing footlight, five-foot section	$50.00	*Vidalba*
828	Double-row disappearing footlight, five-foot section	80.00	*Vibiones*
830	Single-row disappearing footlight, with aluminum reflector and glass roundrels, five-foot section....	85.00	*Vidroso*

Borderlights

Available in any form desired; built for lamps that range from 60 to 1000 watts; furnished in one continuous length or in sections any length desired; completely wired ready for installation.

No. 603—Enclosed type Borderlight, for 300 to 500-watt PS Mazda lamps; single-row of receptacles, spaced 10″ centers; with double-focus reflector for each lamp and adaptor for holding 9″ colored-glass diffusing roundrels; also with slide-grooves for holding metal frames for gelatin color mediums or colored-glass slides; furnished with splice-box for making feeder connections, chains, and 1½-in. pipe batten for hanging.



No. 603

KLIEGL BORDERLIGHTS

No.	Description	Price	Code word
602	Enclosed type borderlight, with roundrels, for 200-watt lamps.....	*	*Rabonnir*
603	Enclosed type borderlight, with roundrels, for 300 to 500-watt lamps.....	*	*Raboseado*
604	Enclosed type borderlight, with roundrels, for 750 to 1000-watt lamps.....	*	*Raboseos*

*Price quotations for borderlights furnished on application.

Aisle Lights and Step Lights



No. 676



No. 675

No. 675—Aisle Spotlight, for mounting on side of end-seats adjoining aisle ways or on side walls; equipped with lens which controls and properly distributes the light downward; for 100-watt lamp.

No. 676—Aisle-light, vertical type, for flush-wall mounting, usually used in side aisles; knockouts in sides, rear and bottom; removable cast-aluminum front; louvered openings direct the light to the floor; for a 40-watt lamp.

KLIEGL AISLE-LIGHTS AND STEP-LIGHTS

No.	Description	Weight	Price	Code word
675	Aisle spot-light.....	13 ozs.	$4.50	*Kapius*
676	Aisle-light.....	4 lbs.	5.00	*Raquel*
677	Step-light.....	4 lbs.	5.00	*Raresco*

Exit and Illuminated Signs

No. 697—For mounting in wall flush with surface. Provided with hinged doors which hold face-plate and permit access to lamps. Wall box and front furnished as separate units so that box can be set during construction and the front with glass face mounted after construction work is completed.

Ruby-glass face-plate; fancy white letters 4 in. high; galvanized sheet metal box; removable cast bronze frame with swinging door; dull bronze finish. Size, 15¾x9x5 in.

Other styles, sizes, and designs on application.

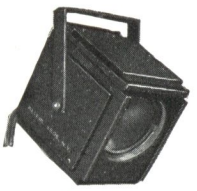


No. 697

Spotlights

Available in every form, all sizes, arc and Mazda types—properly designed for flexibility, ease of adjustment, thorough ventilation, correct lighting, maximum efficiency; comply with Underwriters' requirements.

No. 53—Mazda Spotlight for 250-watt concentrated filament lamp; fitted with medium-screw-base receptacle adjustable for focusing; housing, thoroughly ventilated; adjustable strap-iron yoke support permits spotlight to be hung, mounted, or placed in any position. Furnished complete with asbestos leads and removable frame for gelatin color mediums. Weight, 6¼ lb. Can be furnished with 3¾-in. chromium-plated reflector back of lamp bulb to increase the light volume.



No. 53

KLIEGL SPOTLIGHTS

No.	Description	Price	Code word
6	Arc Spotlight, 25-amp.; 6-in. lens.....	$59.00	*Bebrins*
7	Arc Spotlight, (same as No. 6) with color wheel.....	64.50	*Bectria*
53	Mazda Spotlight, for 250-watt G 30 lamp; with 4½-in. lens, and color frame.....	10.00	*Cervelle*
53A	Mazda Spotlight; (same as No. 53 but with wall bracket).....	12.00	*Cervinos*
54	Mazda Spotlight (same as No. 53 but with round base).....	12.00	*Cervona*
56	Mazda Spotlight (same as No. 53 but with pipe clamp).....	12.00	*Chaleur*
70	Mazda Spotlight, for 1000-watt G 48 lamp; 5-in. lens; with pipe clamp.....	33.00	*Chiudi*
70B	Mazda Spotlight (same as No. 70) with table base in place of pipe clamp.....	33.00	*Chiurlato*
70C	Mazda Spotlight (same as No. 70, mounted on a 3-ft. telescopic pedestal floor stand).....	39.50	*Chiusura*

Outdoor Floodlights

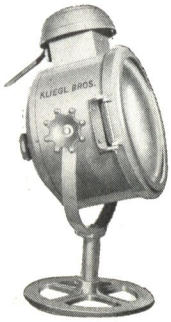
Units of all description, in various types for close or long-range floodlighting; concentrated or wide beam; normal or exceptionally brilliant illumination; substantially constructed; weatherproof and designed to give proper distribution of light.

No. 1600—Floodlight for 250 or 400-watt G 40 lamp; for close-range illumination; covering wide area; spun aluminum housing; reflector, heat-resisting parabodic mirror; fitted with medium-screw-base receptacle adjustable for focusing; glass front of heat-resisting diffusing-glass—weatherproof. Wt., 10 lb.

No. 1610—Floodlight for 1000-watt PS lamp, projects concentrated beam of light long distance; fitted with heat-resisting mirrored-glass reflector; mogul-screw-base receptacle with adjustment for focusing; weatherproof and thoroughly ventilated; clear-glass front lens is set in hinged frame, mounted in



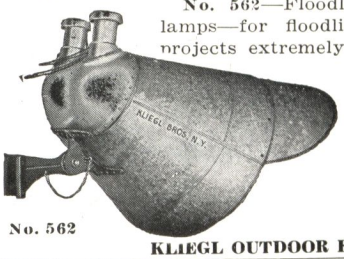
No. 1600



No. 1610

Outdoor Floodlights (Continued)

swivel yoke permitting any desired setting. Wt., 31 lb. Nos. 1612 and 1613, similarly designed floodlights give wide spread of light.

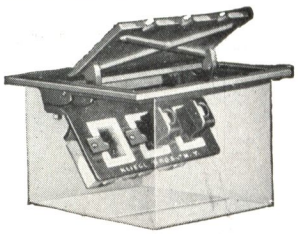


No. 562

No. 562—Floodlight for two 1000-watt PS lamps—for floodlighting large open spaces; projects extremely wide spread of light without blinding glare. Body of reflector is cast aluminum, weatherproof; fitted with adjustable bracket permits mounting on pole or vertical support; reflector hood made of galvanized sheet iron.

KLIEGL OUTDOOR FLOODLIGHTS

No.	Description	Price	Code word
1600	For 250 or 400-watt G 30 lamp; with short stand.....	$30.00	*Jupon*
1601	Same as No. 1600, for 500-watt G 40 lamp.....	30.00	*Jurabun*
1610	For 1000-watt PS lamp, with short stand (concentrated light beam).....	50.00	*Juridic*
1611	Same as No. 1610, with 3-ft. pedestal stand.....	55.00	*Jurisoni*
1612	For 1000-watt PS lamp; with short stand (wide spread light beam).....	50.00	*Jurte*
1613	Same as No. 1612; with 3-ft. pedestal stand.....	55.00	*Jussao*
562	For two 1000-watt PS lamps; with bracket mounting	80.00	*Oncavit*
562A	Same as No. 562; except hood is of sheet aluminum.	100.00	*Oncia*
558	For one 1000-watt PS lamp; with bracket mounting (similar to No. 562A except it is for one lamp)	40.00	


No. 353

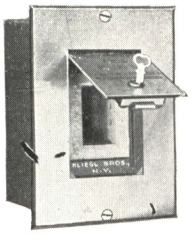
Stage-floor Pockets and Plugs

Used for connecting stage lamps and other devices to supply circuits. Pockets set in the floor flush with the surface and have hinged self-closing cover notched for cable. Furnished with detachable sheet-iron box having conduit knockouts in three sides.

KLIEGL STAGE—FLOOR POCKETS AND PLUGS

No.	No. of pockets	Rating of receptacles			*Price	Code word
		Amps.	Volts	No. of wires		
351	1	1–50	250	2	$10.00	*Hulaqu*
352	2	1–50; 1–25	250	2	16.00	*Hulotte*
353	3	3–25	250	2	24.00	*Hulsean*
354	4	4–25	250	2	30.00	*Hululer*
1350	1	100	250	2	20.00	*Hedge*

* Plugs included in price of pockets.





No. 308

Wall Pockets and Plugs

For use wherever heavy-current temporary circuits are required. They are made in both surface and flush wall types, in sizes which range from 30 to 400-ampere; 2, 3 and 4-wire; for 125, 250 and 500-volt circuits; furnished complete with plugs and are approved by Underwriters.

KLIEGL SURFACE WALL TYPE POCKETS AND PLUGS

No.	No. of pockets	Receptacle rating			Dimensions, in.			Price	Code word
		Wire	Amps.	Volts	Height	Width	Depth		
307	1	2	50	250	6	4¾	2¼	$8.00	*Howl*
317	2	2	50	250	7	11	4½	14.00	*Hazubah*
318	3	2	50	250	7	11	4½	21.00	*Heapest*
319	4	2	50	250	7	11	4½	28.00	*Heartlet*

Other sizes on 2, 3, or 4-wire pockets on application.

KLIEGL FLUSH WALL TYPE POCKETS AND PLUGS

No.	No. of pockets	Dimensions, in.					Price	Code word
		Height	Width	Depth	Surface plate Height	Surface plate Width		
*308	1	5¾	4½	3¾	7	5	$13.00	*Huddie*
§310	1	5¾	4½	3¾	7½	6	10.00	*Haven*
§311	2	6	7½	4	7½	9	16.00	*Hawk*
§312	3	6	8½	4	7½	10½	24.00	*Hawser*
§313	4	6	10½	4	7½	12½	30.00	*Haze*

*With brass face plate, and with lock and key.
§With iron face plate; without lock and key.
Receptacle rating: 2-wire, 50 amps., 250 volts.
Other sizes, 2 or 3-wire, also 100 and 200 ampere pockets, on application.

Panel Pockets and Plugs

Consist of a metal cabinet or box fitted with Kliegl plug receptacles completely wired to a panel having busbars and fuses, or to a branch cutout. Approved by Underwriters.

KLIEGL PANEL POCKETS AND PLUGS

No.	No. of pockets	Receptacle rating			Dimensions, in.			*List price	Code word
		Wire	Amps.	Volts	Length	Width	Depth		
370	2	2	30	250	11	7	4½	$17.00	*Labacol*
372	2	2	50	250	15	8	3½	28.00	*Label*
374	4	2	50	250	23	16	3¾	64.00	*Labrus*
376	6	2	50	250	34	16	3¾	100.00	*Lack*

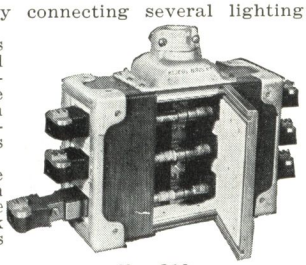
*Prices include plugs.
Panel pockets for 8 or more receptacles on application.

Portable Plugging Boxes

For quickly and conveniently connecting several lighting units to a single outlet.

Consist of plug receptacles mounted in an asbestos-lined case, each receptacle fused independently; positive and negative busbars and fuse connections on opposite sides of box; self-closing doors; feeder cable enters through special clamp on top.

Made for 2-wire and 3-wire feeder mains, 2-wire outlets, in 2 types—one interchangeable for use with cartridge or link fuses, the other for link fuses only.


No. 392

KLIEGL PORTABLE PLUGGING BOXES

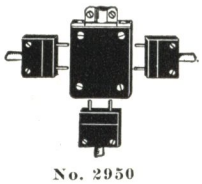
No.	No. of pockets	Rating—Outlet		§Price	Code word
		Amperes	Volts		
2-wire Main—2-wire Outlets—For Cartridge or Link Fuses					
390	2	10 to 30	250	$14.00	*Latch*
391	4	10 to 30	250	27.00	*Laund*
392	6	10 to 30	250	40.00	*Lawn*
393	8	10 to 30	250	54.00	*Lean*
394	10	10 to 30	250	67.50	*Levyne*
3-wire, 125-250 Volt Main—2-wire Outlets—For Link Fuses Only					
381	4	10 to 60	125	29.00	*Lagunda*
382	6	10 to 60	125	43.50	*Lakende*
383	8	10 to 60	125	58.00	*Lamech*

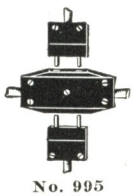
§Prices include plugs.

Pin Plug Connectors

Made in two parts—one-half provided with brass split pins which fit into brass sleeves in the other half. Spacing between pins and other structural details are in accordance with Underwriters' requirements. All live parts embedded in the fiber. Removable fiber plate gives access to terminals for making connections. Sizes range from 5 to 200 amperes. Types available in 2, 3, 4, 5, 6 and 8-pole, also multiple-circuit and branch-off connectors.


No. 350


No. 2950


No. 995

KLIEGL TWO-POLE CONNECTORS

No.	Reversing or non-reversing	For cable gauge No.	Amp.	Volts	Price	Code word
950	Reversing	14	5	250	$1.10	*Pack*
950-N	Non-reversing	14	5	250	1.35	*Pacovio*
951	Reversing	16	5	250	1.10	*Paddle*
955	Reversing	12	15	250	1.50	*Pall*
955-N	Non-reversing	12	15	250	1.75	*Palleal*
956	Reversing	10	30	250	2.40	*Pallid*
956-N	Non-reversing	10	30	250	2.65	*Palliola*
957-N	Non-reversing	6	60	250	6.00	*Pallor*
958-N	Non-reversing	2	100	250	10.50	*Palmy*
959-N	Non-reversing	000	200	250	19.80	*Pander*

Other styles and sizes on application.

Supplies for Stage and Color Lighting

Color Wheels—Automatic and manual. *Color Frames*—For open-box and spotlights, etc. *Lenses*—Objective and condensing. *Framing, Shutters and Blinders*—Various forms for controlling and framing light. *Gelatin Color Mediums*—Strong, uniformly colored sheets of gelatin. *Lamp Coloring Solutions*—For outdoor and indoor use. *Stage Cable*—N.E.C. Standard. *Borderlight Cable*—N.E.C. Standard. *Arc Lamp Carbons*—Solid and cored. *Color Globes and Caps. Scenic Effects*—Reproductions of natural phenomena and stage illusions.

THE HERWIG COMPANY, INC.

Manufacturers of Ornamental Outdoor Lighting Fixtures—Cast Iron and Bronze

Office and Factory

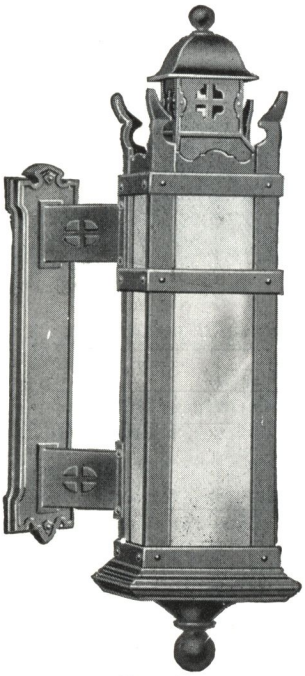
Established 1908 — 1752 Sedgwick Street, CHICAGO, ILL. — Phone: Lincoln 5935

Sales Agents

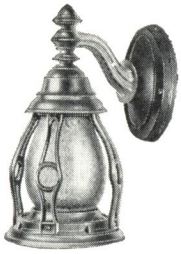
William J. Gaffney, 125 Pearl Street, Boston, Mass. Tel. Hancock 3281 — A. A. Maybee, Box 175, Alameda, Calif.

A Fixture for Every Outdoor Purpose

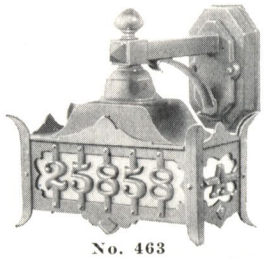
Apartment buildings
Public buildings
Country clubs
Warehouses
Filling stations
Service stations
Bungalows
Residences
Garages
Churches



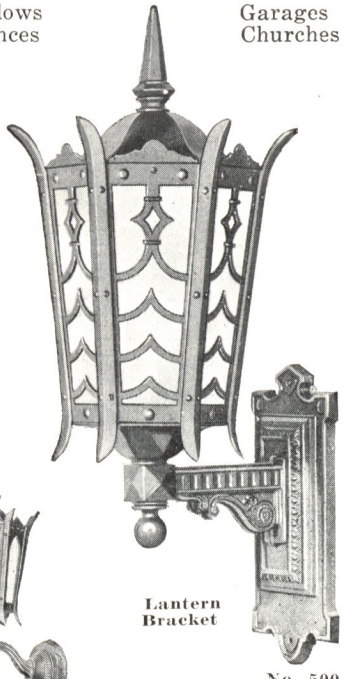
No. 168
Lantern Bracket



No. 186
Lantern Bracket



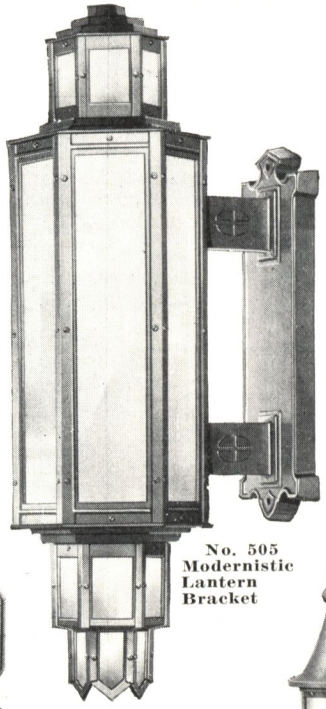
No. 463
Illuminated house number
lantern bracket



Lantern
Bracket
No. 500



No. 458
Lantern Bracket



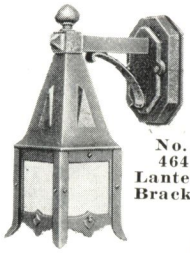
No. 505
Modernistic
Lantern
Bracket



No. 192
Lantern
Bracket



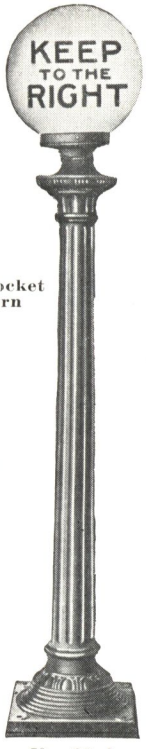
No. 454
Lantern
Bracket



No. 464
Lantern
Bracket



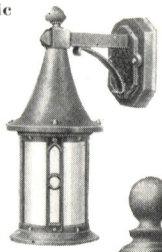
No. 150
Wall Pocket
Lantern



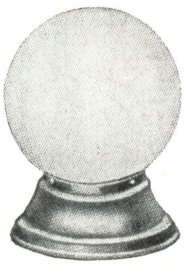
No. 82-A



No. 157
Duplex Garage Bracket
6″ Holder on top x 3¼″
Holder below



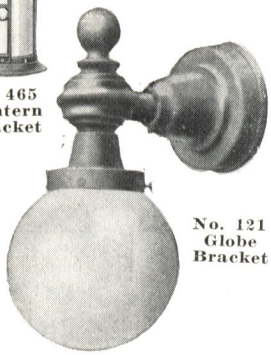
No. 465
Lantern
Bracket



No. 136-A
Post
Light



No. 108-A
Scroll
Post
Light



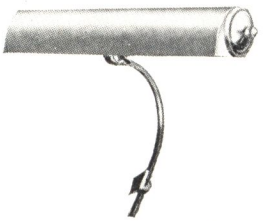
No. 121
Globe
Bracket

For Particulars Consult Your ELECTRICAL JOBBER
They Know the HERWIG Line or Write Us Direct
SEND FOR NEW CATALOG NO. 30—200 ILLUSTRATIONS

KLEMM REFLECTOR COMPANY

132 N. Fifth Street, Philadelphia, Pa.

No. 985 Adjustable Reflector

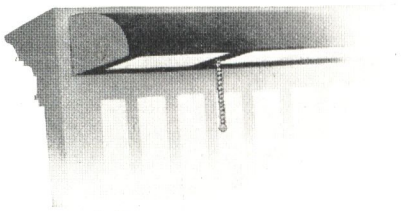


Length:
10 in. for one light, one support
15 in. for two lights, one support
24 in. for three lights, two supports
30 in. for four lights, two supports

Regular gold bronze finish, other finishes as desired.

Fastened to back of the picture, and made for T-10 lamp.

No. 1438 Bank Counter Screen Reflector



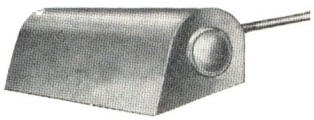
Made of bronze or steel, with a chromium reflecting surface, lights on 12-in. centers, fully wired, furnished with a diffusive glass, hinged doors to give an even light.

No. 774 Show Case Reflector

Made of brass, bronze or steel, any length, with lights on 12, 15 or 18-in. centers; chromium reflecting surface. Fully wired.



No. 1356 Rigid Bulletin Board Reflector



This reflector is made with a center bracket 12 in. long and a canopy to suit the outlet box. Finished white enamel inside. Statuary bronze spray outside. When ordering please specify size of outlet box. A porcelain twin socket is furnished with this reflector.

No. 965 Adjustable Bulletin Board Reflector



Made with adjustable end brackets, reflector is 18 in. long and has a twin socket, wired with 8 ft. cord, plated a statuary bronze or brush brass finish. Will take 50-watt lamps. Specify if to be used outside. Prices on request.

Klemmco Illuminated Signs



No. 101 4 x 14 bracket type
No. 102 4 x 14 chain type
No. 103 4 x 14 surface type
No. 104 4 x 14 standing type
No. 105 4 x 14 projecting type

Other sizes if desired, made of bronze metal.

No. 1144 Adjustable Window Reflector

Made of steel lined with chromium. Fully wired with angle or twin sockets, on any centers desired, in 4, 5 and 6-in. widths. This reflector can be used for many other types of installations.



No. 302 Plain Street Hoods



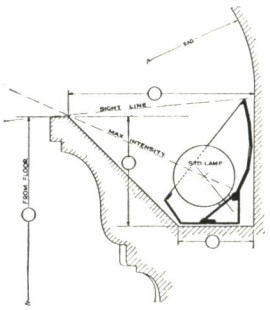
Made of steel, finished white enamel and green, with ¼ in. x ⅜ in. fitting. Furnished without socket. Made in 12 or 15 in. diameters.

No. 1505 Cove Reflector

Reflectors of this type are usually designed for indirect light from a cove on the side walls or a dome in the ceiling.

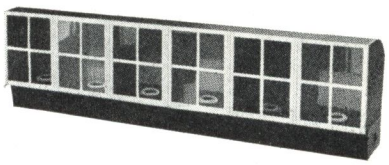
Our cove reflectors are made of steel and lined with chrome finished metal. The lights are placed on centers to meet the condition and wired with the number of circuits necessary to obtain the results desired. Let us have your sketches and plans; our engineering department is always ready to assist you in any way possible.

This type of installation will enhance the beauty of Lodge Rooms, Churches, Arcades, Theaters, etc. Prices on request.



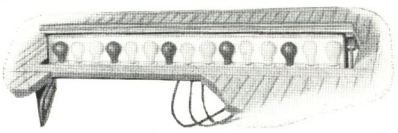
No. 1800 Footlights

Made with or without color frames. Lights on 4 and 6-in. centers. Made of steel, white enamel inside, black outside. Wired to suit requirements.



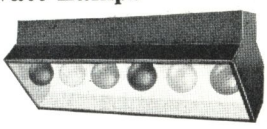
No. 2050 and No. 2150 Disappearing Footlights (Patented)

For schools, churches, auditoriums, clubs, etc., permitting the stage to be used for theatricals when footlights are needed, or a lecture platform when no lights are required. Built in 5-foot sections to accommodate 15-60-watt lamps. Top made of best quality maple. Reflector is 20 gauge steel, with white enamel reflecting surface. The No. 2150 has individual chromium plated reflectors, and heat-resisting color lenses. Automatic switch control on each section.



No. 1850 Borderlight—60-watt Lamps

Made of 20 gauge steel, white enamel inside, black outside. Lights on 4 and 6-in. centers. Wired for any number of circuits. Chain or adjustable hangers furnished. Also made for 100 and 150-watt lamps.

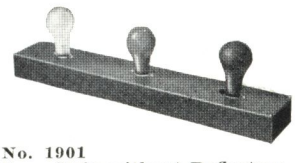


No. 1900 and No. 1901 Cove Strip

Made with or without chromium reflectors and color lenses, for 25, 50, 60, 100, 150-watt lamps; sturdily constructed of 20 gauge steel and furnished in length to suit straight or curved condition. Lamps can be placed on any centers and wired to suit requirements.



No. 1900
Cove Strip with Reflectors



No. 1901
Cove Strip without Reflectors

No. 1326 Exit Boxes

Box made of 20 gauge steel, white enamel inside, with a cast bronze frame. Made in two sizes 14 x 7 x 4 in. with 5-in. letter, and 11 x 13 x 4 in. with 8-in. letter. Furnished with ruby red glass and white sandblast letters. Art glass letters can be furnished if desired.



REYNOLDS ELECTRIC CO.

Manufacturers of Sign Flashers, Controls, Fractional Horsepower Motors, Color Lighting Equipment

Factory and Main Office

2644 West Congress St., Chicago, Ill.

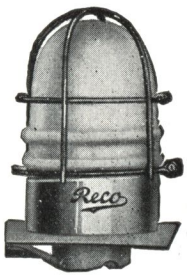
Eastern Sales Office: 256 W. 31st St., New York, N. Y.

Reco Color Lighting Equipment



Reco Color Hood with Holder

Used for canopies, electric signs, etc. Holder makes a dustproof fitting. Furnished with spring fastener when holder is not desired. Made in S14, A19 and A21 sizes.



Reco Color Hood with Metal Holder and Wire Guard

Used for exits, danger lights, directional lights, fire alarm boxes, etc.

Colors — ruby, green, blue, amber, opal, or clear glass.



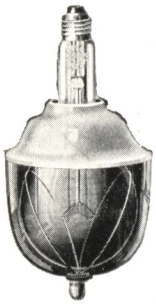
Reco Half Hood

Used on channel-letter electric signs to take advantage of the reflected light.

Spring clip securely holds hood on lamp.

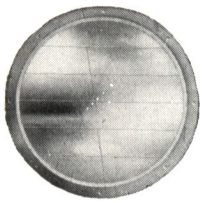
Six colors.

Four sizes, up to 60 watts.



Laco Color Hood

Five beautiful colors — for 100 to 500-watt lamps. For show windows, reflectors, spots and fixtures where colored lighting effects are required.



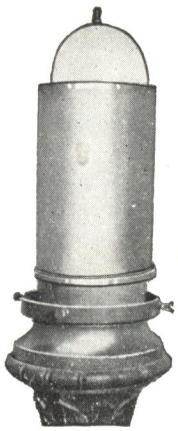
Circle Color Plate

For flood lights and projectors.

Fits back of lens and gives true and permanent color.

Made in various diameters.

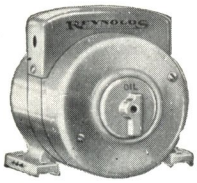
Also rectangular color plates.



Laco Color Hood and Cylinder

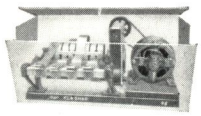
Illustrating use with street lighting units. Single or two-tone colors.

Reco Flashers—Controls—Dimmers—Reflectors



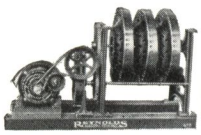
Reco Unit Flasher

Motor-driven with flashing mechanism self-contained. For electric signs flashing on and off, railroad crossings, blinker lights, danger signals, etc.



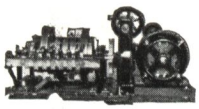
Reco Flashers

For electric signs, displays, etc. Made for fancy borders, sunbursts, fire works, waterfalls, speller, script writing, on and off. Two or more colors, etc.



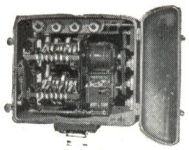
Reco Dimmer Flashers

For color changing effects in flood lights, fountains, buildings, show windows, dance halls, displays, etc. Send complete details for estimate.



Reco Special Controls and Timers

For opening and closing circuits at predetermined periods, such as call systems, signals, sirens, reversing motors, bridge lights, etc.



Reco Traffic Controls

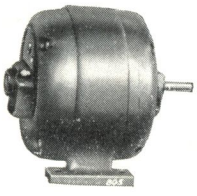
For "stop" and "go" signals. Adjustable for timing, manual and automatic. Made for progressive and synchronized systems, three-street intersections, etc.



Reco Reflectors

Specially designed for poster and bulletin boards. Also used for wall lighting. Easily installed and efficient. Gives even distribution with economy of light.

REYNOLDS ELECTRIC COMPANY Motors



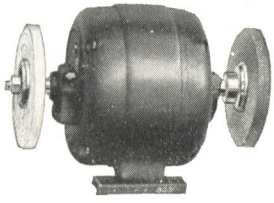
Reynolds Motors

Made in sizes ranging from 1/20 hp. to ¼ hp. in interchangeable frames for a-c. or d-c. in all commercial voltages and frequencies.

Reynolds motors are built for hard and continuous service and stand up under conditions where others fail.

Reynolds Grinder Motor

For garages, shops, home use, etc. Rugged and foolproof construction with oversize bearings. Furnished with 6-in. emery and cotton buffing wheels and 10-ft. cord with two-piece attachment plug.



Write for descriptive bulletins on the above lines. State fully your flashing, contacting or lighting problems. Reco Engineers will be glad to suggest the most modern, practical and economical methods for solving your difficulties.

AMERICAN BLOWER CORPORATION

General Offices

DETROIT, MICH.

Branches and Distributors in Principal Cities

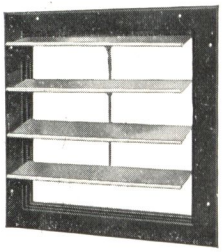
Automatic Shutters for Ventura Fans

Automatic Shutters are used in connection with disc type fans as a protection to fan when not running, and to keep out the wind, rain, snow and cold. Shutters are constructed of rolled aluminum leaves attached to steel rods supported in a steel frame.

Each leaf of the shutter is edged with a felt strip tightly folded into the metal which prevents the shutter from "rattling" when fan is not in use.

The force of the air when fan is running holds the shutter open. When fan is shut off, shutter closes automatically by gravity. It is advisable to use an automatic shutter whenever the fan is installed in an outside wall.

They automatically close the opening outside the fan at night or at any other time, when the fan is not in use.



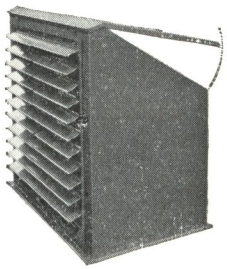
Automatic Shutter Open

Ventura Pent Houses

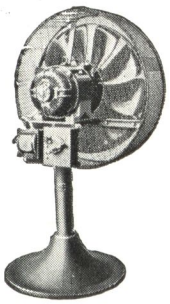
Ventura Pent Houses are used in connection with Ventura Disc Ventilating Fans when it is necessary to install fans on roof. They are made of heavy gauge steel and are equipped with an Automatic Shutter to exclude weather when fan is not operating. Ventura Pent Houses are designed to permit of free access to fan for inspection and maintenance.

The door which opens at the top is so arranged that oiling and adjustments to fan and motor can be taken care of without causing the slightest inconvenience to the man doing the work. A hasp is provided for securely locking the door. Automatic shutters are of extra heavy construction to insure of their giving continuous service over a long period of time.

Ventura Fans are not designed for use with duct systems. When installed in Ventura Pent Houses a straight vertical shaft equal in area to the size of the Pent House base may be used, but lateral ducts connecting to this shaft must be avoided.



Ventura Pent House



Man-cooling Fan

Man-cooling Fan

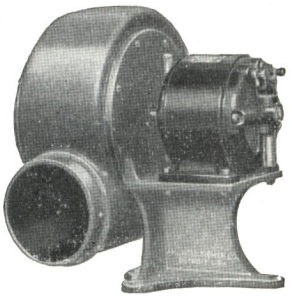
Compact and entirely self-contained, the Man-cooling fan pays big dividends in increased production by the workers in plants where oppressive, sweltering atmosphere would otherwise retard their efforts.

It is designed to supply a refreshing breeze in places not practical for other types of cooling apparatus.

"Sirocco" Utility Blowers

The "Sirocco" utility blower serves countless different purposes.

Generally speaking, this unit is used for inside ventilation with ducts when no direct outside connection is possible, or where a current of air is to be directed in a given direction. It is available in nine different sizes, delivering from 55 to 10,000 cu.ft. per min.

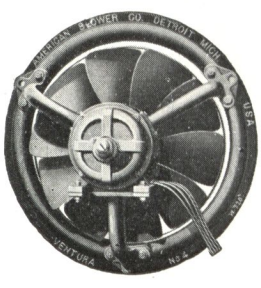


"Sirocco" Utility Set

"Ventura" Fans for Restaurants, Offices, Stores, Theaters and Industrial Plants

"Ventura" ventilating fans are the most efficient disc fans yet developed. Their capacities range from 1150 to 18,450 cu.ft. per min. They are intended for installation in outside walls, windows or transoms where they exhaust stale air and fumes, keeping the atmosphere fresh and clean.

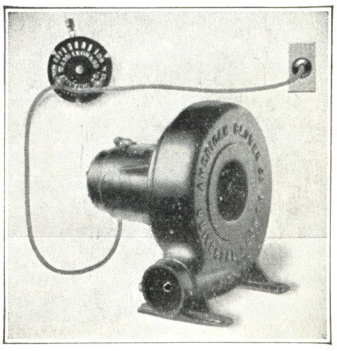
Practically every office, restaurant, store, garage and similar business place is in need of a "Ventura" ventilating fan.



"Ventura" Ventilating Fan

Forge Blower

The Type "P" forge blower was originally designed for forge blower work. It is also extensively used for oil burners, as well as an exhaust fan on small exhaust systems for dental laboratories, jewelry manufacturing shops, woodworking plants and similar locations. Made in four sizes; capacities ranging from 90 to 790 cu.ft. per min.



Type "P" Forge Blower

AUTOVENT FAN & BLOWER CO.

1814 No. Kostner Ave. CHICAGO, ILL.

Branch Offices

BRIDGEPORT.....Seeley & Jones, 128 Stella St.
BOSTON.....Autovent Fan & Blower Co., 180 Milk St.
CEDAR RAPIDS.....D. H. Hindenach, 319 North 5th St.
CINCINNATI.....Autovent Fan & Blower Co., 2413 Union Central Bldg.
CLEVELAND.....Autovent Fan & Blower Co., 938 Guardian Bldg.
DALLAS.....Autovent Fan & Blower Co., 607 Thomas Bldg.
DETROIT...Autovent Fan & Blower Co., 806 Donovan Bldg.
HARTFORD.....A. J. Purcell, 631 New Britain Ave.
INDIANAPOLIS.....Pat O'Moore, 308 Indiana Pythian Bldg.
JACKSONVILLE.....G. E. Osgood, 204 Florida Theater Bldg.
KANSAS CITY..A. A. Electric Machinery Co., 1117 Cherry St.
LOS ANGELES.....Pacific Engineering Co., 734 East 12th St.
MIAMI.....F. A. Aufford Agency, 140 N. E. 12th St.
MILWAUKEE....Autovent Fan & Blower Co., 342 Fourth St.
NEW YORK.....Autovent Fan & Blower Co., 1689 Woolworth Bldg.
OMAHA.....G. H. Alwine Co., 731 Brandeis Theater Bldg.
PITTSBURGH.....T. J. Barry, Park Bldg.
RICHMOND.....Richmond Air Equipment Co., 908 Cary St.
ST. LOUIS...Autovent Fan & Blower Co., 709 No. Euclid Ave.
ST. PAUL.....Commonwealth Electric Co., 417 Broadway
SALT LAKE CITY....Raymond Ackerman, 318 Dooly Block
SAN ANTONIO.....Fred C. R. Spence, P. O. Box 119
SAN FRANCISCO.....R. J. Ziegler, 637 Minna St.
SEATTLE.....Alfred P. Brown, Inc., Dexter Horton Bldg.
SPOKANE.....Standard Products Co., South 217 Browne St.
TAMPA.....Henry G. Carter, 504 Lafayette St.

Autovent Motor-driven Propeller Fans

Designed for exhausting a large volume of air at low resistance from kitchens, restaurants, offices, etc. They are compact, durable, quiet in operation, easy to install and economical to operate.

A unique feature of the design is the method of cooling the motor. In ordinary exhaust fans this is accomplished by allowing the air to pass through the motor windings, thus resulting in rapid deterioration caused by moisture, dirt, gases, etc. Autovent Fans have motors enclosed in cast iron housings and are radiation cooled. Motor bearings are made of a cast bronze alloy and are self-aligning and interchangeable. Shafts are of special steel ground to fit bearings.



Fan wheels consist of hubs bored and reamed, steel spokes are securely riveted to hub arms. The outer rim is welded and riveted to the blades and spokes.

All wheels are accurately balanced to insure smooth running and long life to the motor.

Autovent Fans are fully guaranteed to deliver their rated air capacities as shown in table below. *Write for Bulletin 62B.*

AUTOVENT MOTOR-DRIVEN PROPELLER FANS

Type	Size	Cu. ft. air per min.	Watts per hour	R.p.m.	Type	Diam., in.	Cu. ft. air per min.	Watts per hour	R.p.m.
Direct-current Types									
WN	**12**	500	60	1200	**WR**	**30**	9000	500	825
WR	**12**	700	65	1700	**WN**	**36**	10000	575	600
WR	**16**	1500	95	1250	**WR**	**36**	12000	780	725
WN	**18**	2100	115	1050	**WR**	**42**	13500	875	500
WR	**18**	2500	165	1150	**WR**	**48**	18500	1330	450
WR	**20**	2900	210	950	**WR**	**54**	23000	1720	410
WN	**24**	4200	284	830	**WR**	**60**	27500	2325	375
WR	**24**	4600	425	900	**WR**	**72**	36000	2900	275
WN	**30**	7500	458	690					
Alternating-current Types With Constant Speed, Multiphase, 60-cycle, Induction Motor									
PR	**16**	1500	90	1150	**PR**	**42**	13300	830	495
PR	**18**	2500	175	1150	**PR**	**48**	19400	1415	495
PR	**20**	3300	195	1150	**PR**	**54**	24000	1740	425
PR	**24**	4400	285	850	**PR**	**60**	28000	2140	380
PR	**30**	7500	465	690	**PR**	**72**	38200	2840	285
PR	**36**	9800	615	575					
With Variable Speed, Multiphase, 60-cycle, Slip-ring Motor									
VS	**36**	9800	620	575	**VS**	**54**	24000	1770	425
VS	**42**	13300	850	495	**VS**	**60**	28000	2175	380
VS	**48**	19400	1450	495	**VS**	**72**	38200	2880	285

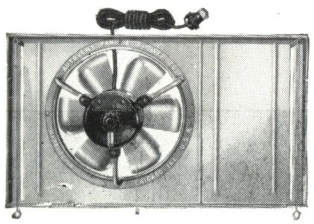
Type	Size	Cu. ft. air per min. at max. r.p.m.	Watts input	R.p.m. Low	R.p.m. Med.	R.p.m. Max.
Alternating-current Types With Constant and Variable Speed, Single-phase, 60-cycle Condenser Type Motors						
QN	**12**	750	75	*	*	1100
QR	**12**	1000	90	*	*	1600
SP	**12**	1000	100	1100	.....	1600
CR	**12**	1100	90	1020	1360	1700
QE	**16**	1400	100	*	*	1100
CR	**16**	1400	110	660	880	1100
CR	**18**	2500	165	805	975	1100
CR	**20**	3300	195	690	850	1150
CR	**24**	4400	285	575	690	850
CR	**30**	7500	465	450	575	690
CR	**36**	9800	680	450	525	575
CR	**42**	13300	950	325	400	495

Controllers can be furnished for providing 3 speeds on all except the 12QN, 12QR and 16QE fans.

*Constant speed only.

Autovent Portable Ventilator

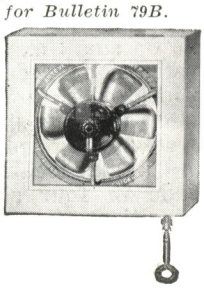
For home and office use. Fits upper part of large or small window frame; secured by two screws. Does not hinder raising or lowering either sash. Upper sash is lowered by two pull rods attached to top by brackets which protrude through slots in panel. Equipped with quiet 820 r.p.m. d-c. or a-c. motor controlled by self-contained pull cord switch. Exhausts 550 cu. ft. of air per min. Three types: 25-30½ in.; 31-36½ in.: 37-42 in. Panel board, 15½ in. high. Attractive gray finish. Complete with cord and plug.



Write for Bulletin 79B.

Autovent Self-contained Cabinet Ventilator

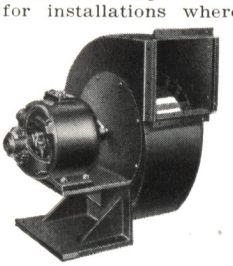
A suction ventilator for installation in outside wall—half-turn of handle opens glass door, starts motor, opens louvre. Exhausts foul air, smoke, etc. Driven by quiet 820 r.p.m. motor—exhausts 550 cu. ft. of air per min. Size overall, 17 x 17 in.; depth, 12 in. Length of control handle varies with height of ceiling. Furnished in any color.



Write for Bulletin 85B.

Uniblade Motor-Driven Volume Blowers

Uniblade Type "C" Volume Blowers are particularly suited for installations where small volumes of air are handled through sheet metal piping systems. They are ideal for exhausting air, smoke, fumes and the like, from restaurant and hotel ranges, theater booths, vats and other installations in conjunction with sheet metal hoods. Outlets are so designed that the discharge may be set at any desired angle, thus eliminating pipe elbow connections to the blower. Motors are furnished for both direct and alternating current operation. Write the factory for additional data.

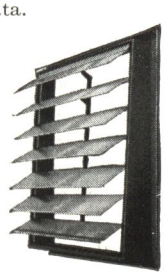


Type "C" Blower

Autovent Automatic Louvres

Autovent Automatic Louvres are designed to provide weather protection to the fan opening. They are equipped with aluminum vanes, connected serially, and open automatically at the slightest pressure from within, and drop into a vertical position, slightly over-lapping each other when the fan is not in motion. Furnished in sizes corresponding to the above fan sizes.

Special Louvres equipped with vanes of copper, or other resisting metals can also be furnished.



BUFFALO FORGE COMPANY

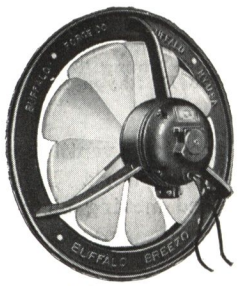
"Manufacturers of Better Fans Since 1878"

507 Broadway, Buffalo, N. Y.

BRANCH OFFICES IN ALL PRINCIPAL CITIES

Complete line manufactured in Canada by Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Buffalo Breezo Ventilating Fan



Made in Six Sizes

Buffalo Breezo Ventilating Fans are built in six sizes from 12 in. to 36 in., providing a unit for every need. The smaller units are used extensively in residences; the larger sizes are for ventilating factories, garages, theaters, creameries, boiler and engine rooms, etc.

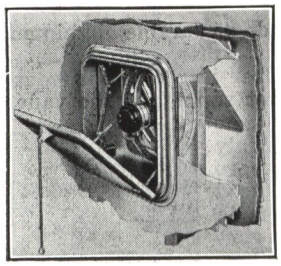
They are sturdily built throughout; the all-steel unbreakable construction of fan, clamps and ring and the totally-enclosed motor with waste-packed bearings requiring lubrication only every 1500 hours.

The improved design of the die-formed steel blades and stream line design of the clamps and ring give these fans a larger capacity than other fans of the same diameter, speed and power consumption. They weigh far less than most other fans of cast iron or even aluminum.

DIMENSIONS AND PRICES

Size, in.	Speed, r.p.m.	Cap., cu. ft. per min.	Motor hp.	Shipping wt., lb.	List price
12	750	600	1/70	25	$ 47.00
12	1150	1000	1/50	25	47.00
16	850	1100	1/20	50	59.00
16	1150	1500	1/10	50	59.00
18	850	1800	1/10	60	93.00
18	1150	2400	1/6	60	93.00
24	670	3200	1/4	115	160.00
24	850	4000	1/3	115	160.00
30	670	6200	1/2	220	225.00
36	575	10000	3/4	275	285.00

Buffalo Improved Home Ventilating Unit



Phantom View

The Improved Buffalo Home Ventilating Unit can be installed in homes under construction or in those already built.

The design of the box incorporates every advantage and improvement. The doors are made from a single piece of heavy-gauge metal, die shaped, very rigid and strong. The box is made to fit walls of varying thickness, and only one pair of rods need to be adjusted to fit the box to the wall. It is practical to use a Buffalo Home Ventilating Unit in walls as thin as 5¾ in. only because of the compact design of the 12-in. Breezo fan used in the box. This fan has blades set at just the right angle to handle a large volume of air at comparatively low speed, thus assuring quiet operation.

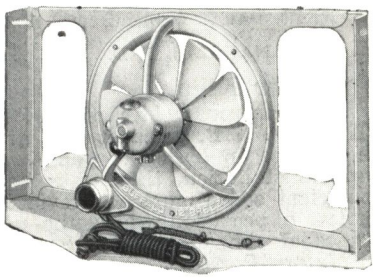
Motor is fully enclosed, and equipped with wool-packed bearings, requiring the minimum of attention.

List price, complete with 12-in. fan $85.00

Breezo Adjustable Glass Panel Type Home Ventilating Unit

Similar in construction to our regular steel panel window model, this new type has glass panels on each side of the fan, a desirable feature where there is only one kitchen window available, or where the light is poor.

The panel is made in two sizes, the smaller to fit windows from 26 in. to 36 in. wide, and the larger size, from 36 in. to 46 in. The price is the same for both panels.



Made in Two Sizes

The appearance of the glass panel Breezo is particularly attractive. The motor, finished in aluminum, harmonizes with the pearl gray panel, frame and wheel.

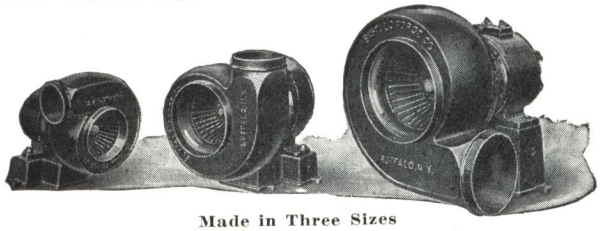
The fan is very quiet in operation. When desired, a reversible motor can be supplied, at no extra charge.

List price, complete with fan and switch, but without glass $58.00

Buffalo Baby Conoidal Ventilating Sets

These fans have cast iron housings, and are reversible for different positions of discharge. They are used principally for exhausting from hoods and vats, handling gases, moisture, steam, smoke, vapor, foul air, odors, heat fumes and dust from various types of buildings, as well as for ventilating toilet rooms in public buildings and schools, and they are also used in connection with oil burning equipment where mechanical means of atomization are used. The three sizes shown below are carried in stock at all times.

Supplied D. C. 110-220 volt and A. C. 60-cycle single-phase 110-220 volt.



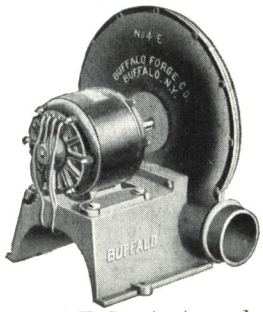
Made in Three Sizes

DIMENSIONS AND PRICES (NIAGARA WHEELS)

Size, No.	Speed, r.p.m.	Cap., cu.ft. per min.	Pressure, in. water guage	Motor hp.	Shipp. wt., lb.	List price
1	1740	75	0.10	1/30	40	$ 50.00
2	1740	160	0.25	1/15	55	65.00
3	1140	260	0.38	1/6	110	100.00
3	1740	500	0.60	1/4	115	100.00

Electric Blowers of All Kinds

We manufacture a complete line of blowers and exhausters that meet practically any requirement of capacity, pressure and motor size. Variable speed motors can be furnished with the smaller blowers.



No. 4-E Constant-speed Electric Blower

Complete Descriptive Literature Furnished on Request

JOHNSON FAN AND BLOWER CO.

1319 West Lake Street, Chicago, Ill.

Agents and Branch Offices

ALBANY.....A. P. Becker, P.O. Box 463
BALTIMORE, MD.....74 Knickerbocker Bldg.
BOSTON, MASS.....J. M. Pettingell, 201 Devonshire St.
CINCINNATI, OHIO.....E. J. Richards, 529 Chamber of Commerce Bldg.
DETROIT, MICH.....Plath-Fittinger Co., 1900 E. Jefferson Ave.
DULUTH, MINN.....A. H. Kennedy, 316 Glencoe Bldg.
EL PASO, TEX.. Geo. S. Thomson Co., 1617 Bassett Ave.
ERIE, PA.... Coblentz Tool & Supply Co., 1119 Peach St.
HOUSTON, TEX.....1001 Electric Bldg.
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JOHNSTOWN, PA.....244 Market St.
LOUISVILLE, KY.....J. A. Burrichter, 212 Coleman Bldg.
MILWAUKEE, WIS.....L. I. Hawkins, 721 Murray Ave.
NEWARK, N. J.....J. V. B. Post, Suite 16, 800 Broad St.
NEW ORLEANS, LA.....833 Howard St.
NEW YORK, N. Y.....60 E. 42nd St., Suite 939
OMAHA, NEB.....H. A. Campbell, 317 Gardner Bldg.
PHILADELPHIA, PA.....1019 Harrison Bldg.
PITTSBURGH, PA.....3002 Grant Bldg.
ST. LOUIS, MO.. Geo. W. Bonnell, 440 Planters Bldg.
SAN ANTONIO, TEXAS...30th Fl., Smith Young Tower
YOUNGSTOWN, O...J. D. McAllister, 100 E. Rayon Ave.

Propeller Fans

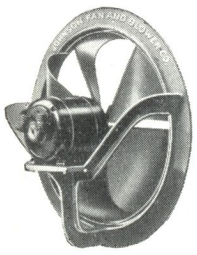
The generous width of the flange or outer ring of The J. F. & B. Exhaust Fan gives plenty of room for bolt holes in both the flange and fan board. When, upon installation, the fan is bolted to the fan board, sufficient space must be provided to give room for bolt holes, a provision which the narrow frames of other types of exhaust fans do not permit.

Motor—Forty-degree motors are used throughout and are enclosed at the front end so as to prevent dirt, grease, steam, acid fumes, and other injurious substances from reaching the windings.

Wheel—The hub of the wheel is bored and reamed to size. The spider arms and outer retaining ring are of the best half-hard cold rolled wire, giving the maximum of durability. The blades are formed from extra heavy sheet steel. Every wheel is accurately balanced.

Frame—By casting the outer ring, arms and motor platform in one piece, we have eliminated the necessity of using bolts in fastening the arms and the outer ring together. This not only prevents the frame from getting out of alignment in shipping or installation, but insures a rigid unit and makes a great saving in both the cost of installation and maintenance.

Removal of Wheel—When the fan is installed the spread of the upper arms of the frame makes possible the removal of the wheel without tearing down the whole installation, a feature that is particularly desirable.



Interchangeability—The motors are interchangeable, making necessary the use of only one frame for direct current or alternating current in any phase.

Oiling—Motors are wick-or-waste oiled in fans up to 20 inches, and are ball bearing in all other sizes.

EXHAUST FANS—PROPELLER TYPE—DIRECT CONNECTED

Size, in.	Air, cu. ft. per min.	Brake hp.	R.p.m.	Shipp. wt., lb.	Size, in.	Air, cu. ft. per min.	Brake hp.	R.p.m.	Shipp. wt., lb.
*** Direct Current—110-220 Volt**									
12	900	0.050	1,725	65	36	12.700	0 500	570	245
16	1,600	0.067	1,125	70	42	16,000	0.750	440	390
18	2,700	0.100	1,150	90	48	19,000	1.000	440	550
20	3,900	0.125	1,150	125	54	24,000	1.250	400	850
24	5,800	0.200	860	150	60	29,500	1.750	360	975
24-H	6,800	0.333	1,140	160	72	36,500	2.250	285	1,400
30	9,300	0.333	690	175					
† Alternating Current—Single Phase—60 Cycle—110-220 Volt									
12	900	0.050	1.725	65	24	5,800	0.200	860	125
16	1,600	0.067	1,125	70	24-H	6,800	0.333	1,140	150
18	2,700	0.100	1,150	90	30	9,300	0.333	690	175
20	3,900	0.125	1,150	100	36	12.700	0.500	570	245
‡ Alternating Current—Two and Three Phase—60 Cycle 110-220-440-550 Volts									
18	2,700	0.100	1,150	85	42	16,000	0.750	440	390
20	3,900	0.125	1,150	100	48	19,000	1.000	440	550
24	5,800	0.200	860	150	54	24,000	1.250	400	850
24-H	6,800	0.333	1,140	160	60	29,500	1.750	360	975
30	9,300	0.333	690	175	72	36,500	2.250	285	1,400
36	12.700	0.500	570	245					

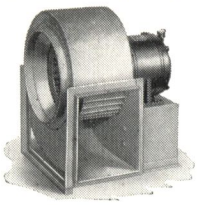
* Add 5% for 500 Volt. Speed regulators are not necessary with 12 in. to 18 in. direct current fans. However, regulators are furnished with all other direct current sizes, and they give 50% reduction in speed by armature control.

† Speed Regulator giving 30% speed reduction can be furnished for the 24 in., 30 in. and 36 in. single phase fans.

‡ Add 5% for 25-30-40 Cycle or 440-550 volt. Single phase fans can be operated on any phase of a two or three phase circuit.

Midget Blowers

Johnson "Midget" blowers are designed for ventilating or cooling usually in connection with duct work. Especially suitable for toilets, telephone and moving picture booths. An excellent method of supplying air to workers in confined areas.



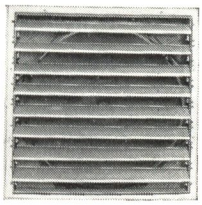
The table below shows capacities and speeds for 110 or 220 volt direct current; 60 cycle, 1, 2 or 3 phase, 110, 220 or 440 volts. Blowers with 25 cycle motors can be supplied. Ask for Bulletin 59 for complete data.

Size	R.p.m.	Wheel size, in.	Free air	Watts	Diam. inlet, in.	Size outlet, in.	Shipp. wt., lb.
5-VQ*	1,725	4½	190	40	5	4½ x 5½	30
10-VQ	1,140	6	265	50	6½	5½ x 7	50
10-SN	1,725	6	400	120	6½	5½ x 7	50
15-VQ	1,140	8	600	110	8	7⅛ x 8⅝	75
15-SN	1,725	8	910	380	8	7⅛ x 8⅝	75
20-VQ	855	12	1,285	205	12	8⅜ x 10⅜	120
20-SN	1,140	12	1,715	485	12	8⅜ x 10⅜	120
25-VQ	855	15⅜	2,650	575	14⅜	12⅜ x 15⅜	200
25-SN	1,140	15⅜	3,530	1,370	14⅜	12⅜ x 15⅜	200

*VQ—Very quiet.
SN—Slight fan hum.

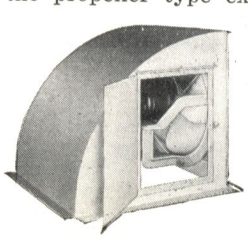
Automatic Shutters

The J. F. & B. shutters are made of durable aluminum. They are constructed to keep out drafts, cold air, snow and rain, as well as flies and other insects from entering the room when the fan is not running. The vanes of the shutter interlock and the pressure of the outside wind only serves to seal this apparatus more securely. They are nicely balanced and easily opened when the fan is in operation. When the fan is not running they rest against each other, interlocking in such a way as to prevent noisy flapping. Furnished in sizes 12 to 72 in. square.



Penthouses (Roof Ventilators)

Manufactured in both the single and double compartment types. Furnished with automatic shutters and the propeller type exhaust fan.



Ruggedly constructed and all joints made absolutely tight, so that adequate protection from the elements is assured. High quality construction is a characteristic factor in the manufacture of these penthouses, and yet prices are kept within a reasonable range. Furnished in sizes 12 to 72 in. square.

B. F. STURTEVANT COMPANY

HYDE PARK, BOSTON, MASS.

PLANTS AT HYDE PARK, MASS.; FRAMINGHAM, MASS.; CAMDEN, N. J.; STURTEVANT, WIS.; BERKELEY, CALIF.; AND GALT, ONTARIO

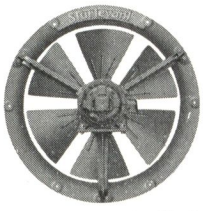
Sales Engineering Offices

ATLANTA, GA. ..... 501-2 Glenn Bldg.
BALTIMORE, MD. ..... 399 Equitable Bldg.
BERKELEY, CAL. ..... 2530 Sixth St.
BOSTON, MASS. ..... 89 Broad St.
BUFFALO, N. Y. ..... 1010 Morgan Bldg.
CAMDEN, N. J. ..... Cresmont and Haddon Ave.
CHARLOTTE, N. C. ..... 224-6 Builders Bldg.
CHICAGO, ILL. ..... 410 North Michigan Ave.
CINCINNATI, OHIO ..... 913 Provident Bank Bldg.
CLEVELAND, OHIO ..... 445 Penton Bldg.
DALLAS, TEXAS ..... 810 Main St.
DENVER, COLO. ..... 525 Central Savings Bank Bldg.
DETROIT, MICH. ..... 2359 First Natl. Bank Bldg.
HARTFORD, CONN. ..... Hartford Natl. Bank & Trust Co.
INDIANAPOLIS, IND. ..... 108 East Washington St.
KANSAS CITY, MO. ..... 1004 Baltimore Ave.
LOS ANGELES, CALIF. ..... 606 South Hill St.
MILWAUKEE, WIS. ..... 204 Wisconsin Ave.
MINNEAPOLIS, MINN. ..... 1024 Metropolitan Life Bldg.
NEWARK, N. J. ..... 31 Clinton St.
NEW YORK, N. Y. ..... 2149 Graybar Bldg.
OMAHA, NEBR. ..... 642 World-Herald Bldg.
PITTSBURGH, PA. ..... 355 Fifth Ave.
PORTLAND, ME. ..... 34 Upland Ave.
PORTLAND, ORE. ..... 715 Lewis Bldg.
ROCHESTER, N. Y. ..... 42 East Ave.
ST. LOUIS, MO. ..... 611 Olive St.
SAN FRANCISCO, CALIF. ..... 681 Market St.
SEATTLE, WASH. ..... 956 White-Henry-Stuart Bldg.
WASHINGTON, D. C. ..... 900 F St., N. W.
MONTREAL ..... 10 Cathcart St.
TORONTO ..... 901 Wellington Bldg.

Sturtevant Products

Sturtevant (REG. U.S. PAT. OFF.)

Electrical contractors are in a unique position to serve the public in the matter of simple ventilating equipment, for practically all such ventilating equipment is electrically driven. They, therefore, can supply the equipment and make the wiring installation. A few of these air-moving products are listed below. The Sturtevant Dealers Bulletin 335-M gives a complete list of the Sturtevant Standardized Merchandising Line of Fans, Blowers, and Heating and Ventilating Apparatus.



Sturtevant Propeller Fans

The Sturtevant Propeller Fan is a high-efficiency fan which delivers a surprisingly large volume of air using but very little electricity. It actually delivers ten to twenty per cent more air than most propeller fans using the same size wheel. It is sturdy, exceptionally quiet and smooth running. Motors are built by the leading electrical manufacturers, and are especially designed for fan duty. Fans are kept in stock for the usual voltages and phases.

TABLE OF SIZES

Direct Current — **115 Volts and 230 Volts**

Size	Wheel Diam., in.	Cu. ft. per min.	Speed, r.p.m.	Watts input.	Shipping weight, lb.
3	16	1,860	1,150	90	80
4	20 5/8	3,020	850	175	150
5	25 1/4	4,075	625	190	225
6	30 1/4	6,360	575	380	325
7	36 1/8	11,350	575	540	460
8	42	13,000	430	590	600
9	45	15,450	420	820	700

Direct-current motor for 115 and 230 volts only. Can be furnished for 550 volts at 5% extra in all sizes except Nos. 3 and 4.

Direct-current motors are furnished with starter and regulator for 50% speed reduction.

2 and 3 Phase — **60 Cycles** — **110-220-440-550 Volts**

Size	Wheel diam., in.	Cu. ft. per min.	Speed, r.p.m.	Watts input.	Shipping weight, lb.
†3	16	1,860	1,150	80	80
*4	20 5/8	3,020	850	175	140
*5	25 1/4	4,430	680	210	200
*6	30 1/4	6,200	560	310	300
*7	36 1/8	11,050	560	560	420
*8	42	12,850	425	590	550
*9	45	15,450	420	820	600

† Furnished in 110 and 220 volts.

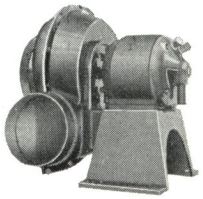
* Single voltage motors for 110 and 550 volts; double voltage motors for 220/440 volts.

Polyphase motors are thrown directly on the line. The speed cannot be regulated.

Sturtevant Propeller Fans are also built in single phase, 25, 40, and 60 cycles, 110/220 volts; and 2 and 3 phase, 25 and 40 cycles, 110–220–440–550 volts. All motors are the enclosed type. All horizontal fans are kept in stock; vertical fans are built to order.

Sturtevant Ventilating Sets

The Sturtevant Ventilating Set is the most suitable type of fan for ventilating small or medium-sized rooms, such as kitchens, toilets, telephone booths, bank vaults or any enclosed space where natural circulation does not provide enough fresh air. These units come in six sizes, which are carried in stock, the largest delivering twenty times the volume of the smallest.



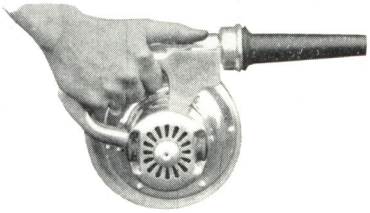
CAPACITIES

When discharging air at 65° F. and .075 lb. per cu. ft. against continuously maintained resistance.

Size	Wheel diam., in.	Motor Hp.	Motor R.p.m.	Net wt., lb.	Ship. wt., lb.	Capacity, cu. ft. per min. Free discharge	Capacity, cu. ft. per min. ¼-in. S. P. (inches water)
AA	3	1/100	2,200	10	12	55	20
A	4	1/20	1,750	21	30	80	40
B	5	1/20	1,750	28	40	170	145
C	6	1/20	1,150	35	55	285	220
		1/8	1,750	35	55	430	405
D	8½	1/6	1,150	60	85	775	700
		3/4	1,750	80	110	1,180	1,140
E	11	1/4	850	120	160	1,090	925
		3/4	1,150	145	190	1,480	1,365
		2	1,750	185	245	2,250	2,175

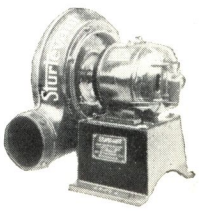
Sturtevant Big Midget Blowers

The Big Midget Blower meets the demands for a blower delivering dry air for use in removing dust from intricate machinery. Powerful; light in weight; convenient to handle. Motor is universal and operates equally well on either AC or DC, of the voltage for which it is wound.



Sturtevant Coal Burning Blowers

Where extra air is needed to burn buckwheat coal in household furnaces, as well as in larger heating plants, the Coal Burning Blower is indispensable. Unit is quiet durable, and is direct connected to standard motor. Complete data, capacities, specifications, etc., can be had from the nearest office.



The Standard Electric Time Company

SPRINGFIELD, MASS.

Sales Offices and Service Stations

THE STANDARD ELECTRIC TIME CO. OF CAN., LTD. ..... 726 St. Felix St., MONTREAL, P. Q., CAN.

ATLANTA, GA.	Glenn Bldg.
BALTIMORE, MD.	2 East Redwood St.
BIRMINGHAM, ALA.	2920 Seventh Ave., South
BOSTON, MASS.	10 High St.
BUFFALO, N. Y.	Stock Exchange Building
CHARLOTTE, S. C.	217 Latta Arcade
CHICAGO, ILL.	Monadnock Bldg.
CLEVELAND, OHIO	Union Trust Bldg.
COLUMBUS, OHIO	83 South High St.
DALLAS, TEX.	Mercantile Bank Bldg.
DENVER, COLO.	562 Pennsylvania St.
DETROIT, MICH.	Donovan Bldg.
KANSAS CITY, MO.	Mutual Bldg.
LOS ANGELES, CALIF.	124 W. 4th St.
MINNEAPOLIS, MINN.	McKnight Bldg.
NEW YORK, N. Y.	50 Church St.
PHILADELPHIA, PA.	1612 Market St.
PITTSBURGH, PA.	Bessemer Bldg.
PORTLAND, ORE.	65 First St.
SAN FRANCISCO, CALIF.	1 Drumm St.
SCRANTON, PA.	148 Adams Ave.
SEATTLE, WASH.	918 Western Ave.
SPOKANE, WASH.	110 S. Cedar St.
TAMPA, FLA.	114 West Alfred St.

Products

"Standard" Electric Time and Program Systems to operate secondary clocks at selected points by means of master clocks and to operate signals at predetermined times by means of automatic program clocks.

The electric systems are of two types:

1. The regular minute impulse system operating from storage battery.

2. A. C. Constant Service System which operates from 110 volt A. C. with auxiliary power unit functioning in case of current failure.

Either system may be operated on a two-wire clock circuit with the clocks in multiple always on the A-C. system, but either multiple or series on the battery system.

With the A-C. system all bells must be operated from transformer.

"Standard" Electric Telephone and Fire Alarm Systems, the applications of which are so well known, need no explanation here.

"Standard" Electric Calling System for "paging" executives who cannot easily be found otherwise.

Industrial Equipment includes accessories for special application in connection with the master clocks and program clocks.

Laboratory voltage supply panels and accessories for furnishing variable voltage supply in physics, chemistry, electrical and biology Laboratories.

"Standard Service"

Our long experience in the manufacture and installation of electric time equipment makes our engineering service of value to contractors, architects, engineers, and schoolboards. Information is furnished gratis and without obligation.

"Standard" Master Clocks

Master clocks are extremely accurate electric, self-winding clocks which operate the secondary clocks by closing the control circuit every 60 seconds. "Standard" Master Clocks are fitted with dead-beat escapements, platinum contacts, and either metal ball or mercurial compensating pendulums. Secondary clocks, program clocks, time recorders, time stamps and other controlled equipment can be operated.

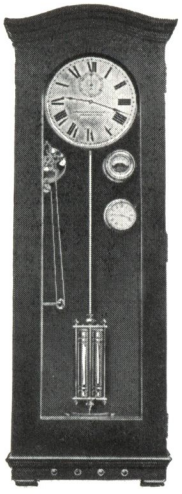


Fig. 105
60-Beat Master Clock
Equipped with mercurial pendulum program clock, pilot dial and milliammeter.

Automatic Program Clock

This device automatically operates signals (bells, horns, or whistles) at prearranged times. Indispensable in schools; widely used in industry.

It may be located either in the master clock case or separately and is controlled by the master clock. A perforated paper tape operates the program relays which in turn close the signal circuits.

An automatic calendar device permits silencing of signals on Saturday afternoons and Sundays, as well as shifting from one schedule to another. It operates signals for about five seconds at minute intervals on 12 or 24-hour schedule.

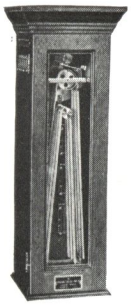


Fig. 140
Program Clock

Secondary Clocks

"Standard" Secondary Clocks are controlled by the master clock, all secondary clocks in a system operating in unison with the master clock.

They are made with square wood cases, round wood cases, or round metal cases with 8, 10, 12, 14, 18 and 24-inch dials.

For boiler rooms, moist or dusty places, special watertight cases are available.

Marble or fancy metal clocks for banks, tower clocks, post clocks, outside clocks, in weatherproof cases with plain dials or back illuminated dials, can be provided to meet practically every demand.



Fig. 820
Post Clock



Fig. 118
Round Metal Secondary Clock Spun Case

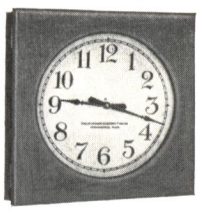


Fig. 116
Square Wood Secondary Clock

Program Signals

Audible signals controlled by program clocks can be of any type, bell, horn, whistle, etc.

"Standard" wood box bells are made with 3, 4, 6, 8 and 10-inch gongs. Cow gongs giving a distinctive tone have 2½, 4 and 6-inch bells.

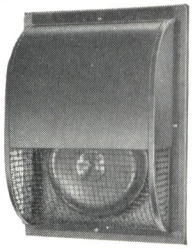


Fig. 804
"Standard" Weatherproof Gong with Housing and Screen



Fig. 803
"Standard" Wood Box Bell

Outside weatherproof gongs furnished with or without housing and screen in 6, 8, 10 and 12-inch sizes.

Almost any type of signal can be supplied. Long duration contact is available for prolonging the signal of outside gongs.

Battery Equipment

If Standard Electric Time Systems are desired operated from a storage battery we furnish this equipment with automatic charging panel, tungar and rectox type, rectifiers or motor generator set.

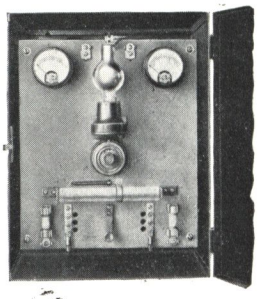


Fig. 823
Panel Board with Tungar or Rectigon

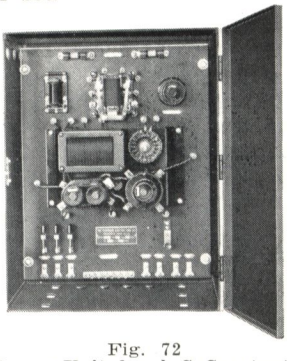


Fig. 72
Power Unit for A-C Constant Service Clock System

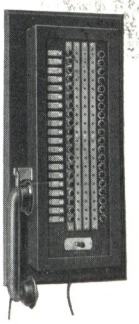


Fig. 818
Combination Bell Control Board and Central Telephone Station

Combination Bell Control Board and Telephone System

With the "Standard" bell control board any room signal can be shifted from one program circuit to another without changing wiring connections. When equipped with hand microphone, switch, and buzzer, this makes a simple, effective telephone system, utilizing regular wall type phones. The same room signals can be used for both program and telephone system. No confusion results because two quick rings can be given for the telephone signal whereas the program signal is a long ring of about 5 seconds. A "Standard" telephone system arranged in this manner can be operated from the clock battery, making it exceedingly reliable and a saving in cost of installation.

Fire Alarm Equipment

This company makes several different types of fire alarm equipment. The open circuit system is the simplest consisting of break glass stations, bells or horns which are sounded from a coded master station. Closed circuit types can be furnished with single or double supervision operating from battery or with single supervision operated from A. C. Systems with individual code boxes can also be furnished for either battery or A. C. operation. Single stroke gongs are used with the closed circuit and individual code box systems.

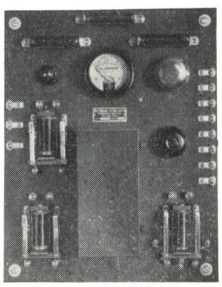


Fig. 526
Closed Circuit Control Panel for Fire Alarm System

"Standard" Electric Calling Systems

The "Standard" Electric Calling System has a capacity of 47 different coded numbers and is composed of a calling instrument manually controlled, wiring circuits, and audible or visible signals. Relays are used on the signal circuit. The "Standard" electric calling system can be combined with the program with economy of equipment and labor. This one feature opens a big market to the contractor, who receives inquiries about calling systems. Send for complete information.

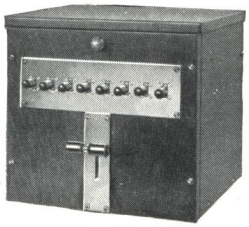


Fig. 710
Calling Instrument for Signal System

Laboratory Equipment

This company makes an extensive line of voltage supply panels and accessories for physics, chemistry, electrical and similar laboratories.

With this equipment various voltages from the storage battery, motor generator and lighting circuit may be delivered to different tables in laboratories by simply plugging into proper circuit with rubber covered flexible cords which are furnished with the equipment.

Individual charging of the separate battery units is possible with this system.

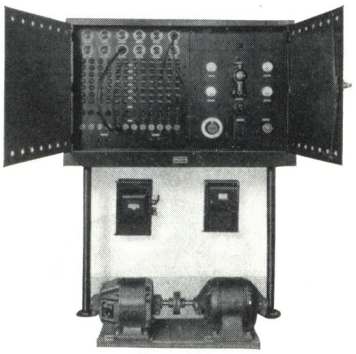


Fig. 220
Experimental Laboratory Panel with Motor Generator Set

Hospital Signalling Systems

For a Patient to Call a Nurse
For the Office to Call a Doctor
For the Doctor to Register In and Out

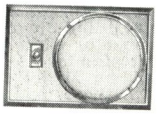
The successful operation of a nurse's calling system depends largely on the Portable Circuit Closing Button. Standard buttons are extremely durable, designed to eliminate any possibility of grounds, short circuits, or loss of adjustment. The portable button is enclosed in a brass shell of heavy gauge, chromium plated. Line springs are mounted on a genuine bakelite base with tubular eyelets.

Buttons are connected with eight feet of "Tirex" five conductor rubber covered cable. Cables are securely anchored to the button and connections rigidly soldered.

Buttons can be reset by regular release lever or special key is desired.

Calling stations are genuine bakelite. Lamp sockets are secured with spring fingers for convenience. Circuit Closing Jacks equipped with spring snap contacts preventing damage when pulled out, and are self-cleaning.

A complete line of duty and pilot stations are furnished including lamp type annunciators. Annunciator numbers are stenciled on metal panels, finished with dull white pyralin. Panels are washable, and non-breakable.



HN-311
Duty Station



Nurses' Calling System

Doctors and Staff Register In and Out System

Consists of illuminated type annunciator with doctors' names printed on pyralin and covered with glass and mounted in metal panel. Panels are arranged for neat flush wall mounting and equipped with toggle switches for convenient operation by the doctors. Special equipment manufactured to meet any hospital requirements, and specifications furnished architects and engineers covering such requirements.

WARREN TELECHRON COMPANY

Manufacturers of Telechron Time Equipment

General Office and Factory

ASHLAND, MASS., U. S. A.

Distributors and Representatives in Principal Cities

Telechron Electric Clocks

Telechron Electric Clocks are actuated by the Telechron motor which is a compact *self-starting* synchronous motor operating at a speed exactly in step with the frequency of the A.C. circuit to which it is connected. The frequency of the current supply is kept accurately regulated with U. S. Naval Observatory Time by means of a Telechron Master Clock installed and maintained in the central power station. The hands move smoothly, steadily, silently and accurately. As all of the important rotating parts are enclosed in an airtight shell and permanently lubricated, it is impossible for the mechanism to clog or lose time through accumulations of dirt and dust. These clocks are not affected by normal variations of voltage, current, or temperature, assuring continuous operation. The cost to operate a Telechron Electric Clock is only a few cents a month. It is the most reliable and accurate domestic timekeeper obtainable, and requires no oiling, cleaning, regulating, or winding.

Telechron Reg. U. S. Pat. Off.

Telechron Electric Clocks are made in many styles and sizes, from small household models to immense tower clocks only a few of which are illustrated below. To the dealer they offer great possibilities for profitable sales at popular prices.

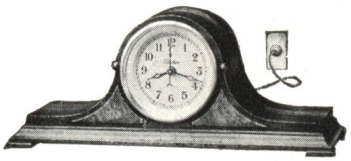
Telechron Electric Clocks are nationally advertised in the Saturday Evening Post and other leading magazines and newspapers —also over many popular radio stations.



"Vernon"—No. 370A

A most appropriate model for the boudoir. An attractive mahogany case with two-tone Spanish high-lighted finish. Three-inch gold dial and illuminated by a tiny Mazda lamp. Etched design on glass crystal. Height, 6⅛ in. width, 5½ in., depth, 4¼ in.

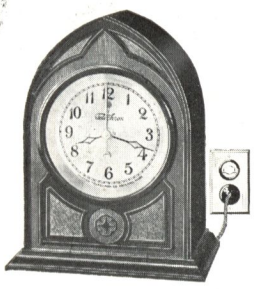
List price, each..... $21.00



"Beverly"—No. 333

A dainty and interesting tambour model fine mahogany case, two-tone Spanish high-lighted. Three-inch silvered dial. Height, 5¼ in., width, 13⅛ in., depth, 4 in.

List price, each.....$20.00



"Cathedral"—No. 355

Beautiful walnut finish bakelite case with 3-in. silvered dial. Case, 5½ in. wide, 7¼ in. high and 3½ in. deep. A nationally advertised and most popular model.

List price, each.....$9.95

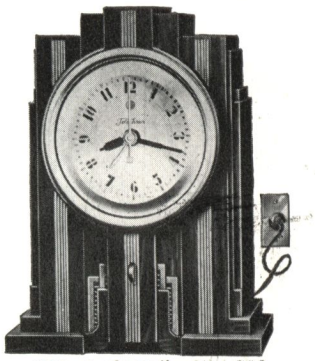


Metal Case Wall Model

For offices, factories, stores, hospitals, schools, public buildings. Available in statuary bronze or white enamel. Sweep-second hand standard in all models up to and including Model 417. No cord is supplied with these models.

Number	Dial	Bronze	White enamel
405	8 inches	$ 26.00	$ 28.00
406	12 inches	28.00	30.00
407	14 inches	32.00	35.50
408	18 inches	46.00	50.00
410	24 inches	100.00	105.00

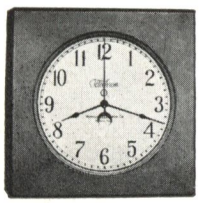
With sweep-second hand on 8, 12 and 14-inch dials.



"Electrolarm"—No. 700

A tasteful, dignified moulded case of modern design with three inch gold dial and illuminated by a tiny Mazda lamp. Equipped with 24-hour alarm which may be disconnected if desired. Available in walnut, green or ivory finish. Height, 7⅝ in., width, 6 in., depth, 3⅝ in.

List price, each.....$25.00



Wood Case Wall Model

For offices, factories, stores, hospitals, schools, public buildings. Available in oak, mahogany or white enamel. Sweep-second hand standard in all models up to and including Model 301. No cord is supplied with these models.

No.	Case Dimension	Dial Dimension
101	11 inches square	8 inches
201	16 inches square	12 inches
301	19 inches square	14 inches
401	23 inches square	18 inches

List price, each

No.	Oak	Mahogany	White enamel
101	$28.00	$29.00	$30.00
201	30.00	31.00	32.00
301	34.00	36.00	37.50
401	50.00	52.00	54.00

With sweep-second hand on 8, 12 and 14-in. dials.

Each model equipped with six-foot silk-covered cord with 2-piece attachment plug and individually packed in a separate fibre carton

THE KENT COMPANY, INC.

131 Canal St., Rome, N. Y.

160 Fifth Ave., New York, N. Y. 423 Salem St., Boston (Medford), Mass.
Builders Exchange Bldg., Cleveland, Ohio

Kent Electric Floor Machine

The Kent Electric Floor Machine polishes, waxes, scrubs, sands and refinishes all kinds of floors—wood, linoleum, cement, tile, composition, marble, rubber, etc. It works easily, speedily and thoroughly, at small expense. Easier to handle than a vacuum cleaner and runs more quietly. Tested and approved by Good Housekeeping and other similar institutes. Fully guaranteed.



Simple to run—connected in a second to any electric light or power socket. The motor-driven revolving brush, pad or disc does the work. When operating, entire weight of machine is on the brush. Brush reaches to baseboard. Rubber bumper protects baseboard and furniture. The fully encased, dust and waterproof motor, and the KENT straightline drive—two exclusive features—make it operate smoothly, quietly and economically.

Model A—Used for polishing, waxing, scrubbing and sandpapering small size floor areas.

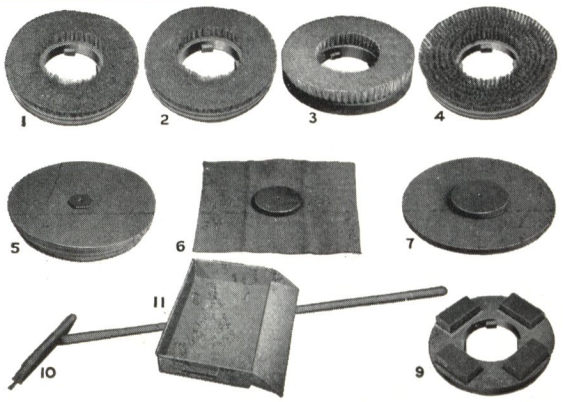
Utility Model—Used for polishing, waxing, scrubbing and sandpapering medium sized floor areas.

J C M Model—A larger and heavier machine, for sandpapering, scrubbing, waxing and polishing large floor areas.

All models furnished with A.C. or D.C. motor for any commercial voltage. Equipped with extra-heavy rubber covered cable. Brushes, pads, discs, etc. furnished as specified. See list of attachments and accessories below.

SPECIFICATIONS

Model	Motor hp.	Brush dia., in.	Speed of brush, r.p.m.	Weight of brushes, lb.	Net wt., lb.	Shipp. wt., lb.
Model A	¼	10	135	35	35	55
UTILITY	⅓	10	210	65	65	90
J C M	½	12 or 14	210	85	85	115



Kent Floor Machine Attachments and Accessories

No. 1 Fibre Scrubbing Brush—For scrubbing hardward floors and for scrubbing and shampooing carpets and rugs.

No. 2 Wax Spreading Brush—For spreading wax on all kinds of floors.

No. 3 Tampico Polishing Brush—For polishing all kinds of floors, floor coverings, furniture tops, etc.

No. 4 Steel Wire Brush—For heavy scrubbing on all kinds of floors. Used with a steel wool pad for scrubbing all kinds of marble, tile and terrazzo floors. Used for removing of paint, shellac, or varnish from floors preparatory to refinishing.

No. 5 Sandpaper Disc—With 18 sheets of sandpaper in three grades—coarse, medium and fine. For smoothing new floors and for sanding old floors, furniture tops, etc.

No. 6 Polishing Pad—Gives an unusually high polish and lustre to polished floors and other polished surfaces.

No. 7 Pumice Pad—Thick, heavy, wool felt pad for use with water and pumice in removing stains from hardwood and tile floors. Also for rubbing down furniture.

No. 9 Carborundum Disc—For grinding down marble and terrazzo floors.

No. 10 Floor Squeegee With Rubber Edge—For pushing dirty water from scrubbed floor into water pan.

No. 11 Water Pan—For gathering up dirty water from floor.

KENT



BUILT TO LAST

Vacuna Vacuum Cleaner

Meets the demand for a machine between the ordinary household type and the expensive stationary cleaner. Light in weight, compact and portable—powerfully large in caacity.

No complicated mechanism to wear out or loosen. No gears, valves or diaphragms to confuse the operator. Constant oiling and care unnecessary. Approved by New York Tribune and Good Housekeeping Institutes.



Jumbo Model—For heavy duty. Tools Nos. 4, 7A, 8, 9, 10, 12A, 15, 16, 16A, 17, 18 and 20.

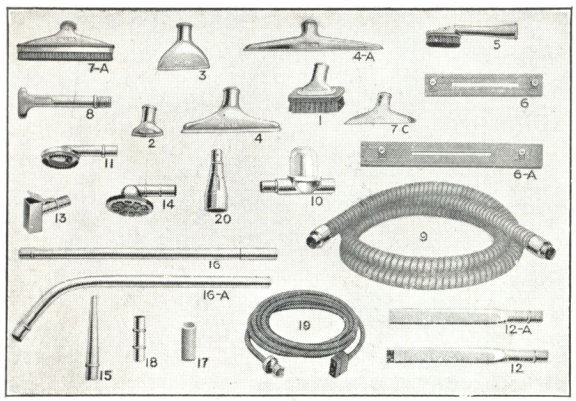
Junior Model—Equipped with tools Nos. 1, 7A, 7C, 8, 9, 10, 15, 16, 16A, and 18.

All models equipped with Westinghouse Universal motors, either 110 or 220 volts. Built entirely of pressed steel and aluminum. Beautiful dull automobile finish.

Special Furnace Vacuum Cleaners—prices and data on request.

SPECIFICATIONS FOR VACUNA VACUUM CLEANERS

Model	Motor hp.	Height overall, in.	Net wt., lb.	Wt. with attachments, lb.	Shipp., wt., lb.
Jumbo	⅜	36	84	99	190
Junior	¼	34	52	63	120



Vacuna Vacuum Cleaner Tools and Attachments

No. 1—Wall Brush, 5½ x 3 in.

No. 2—Tufting Tool, 3 in. wide.

No. 3—Drapery Tool, 5 inches wide.

No. 4—10-in. Floor Tool.

No. 4A—14-in. Floor Tool.

No. 5—Clothes Brush.

No. 6—13-in. Felt Floor Tool, attaches to No. 4 tool.

No. 6A—20-in. Felt Floor Tool, attaches to No. 4A tool.

No. 7A—10-in. Carpet and Floor Brush (short bristles).

No. 7B—10-in. Special Wall Brush (long bristles).

No. 7C—9-in. Rug and Carpet Tool.

No. 8—Utility Tool.

No. 9—12-ft. length Hose with Couplings.

No. 9A—15-ft. lgth. Hose with Couplings (rubber covered).

No. 9B—25-ft. length Hose with Couplings (rubber covered).

No. 10—Observation Glass.

No. 11—Curry Comb.

No. 12—Library Tool.

No. 12A—Long Radiator Tool.

No. 13—Type Case Tool.

No. 14—Bronze Powder Tool.

No. 15—Blower Tool.

No. 16—Straight Part Operator's Handle.

No. 16A—Curved Part Operator's Handle.

No. 17—Rubber Tufter.

No. 18—Hose and Tool Connector.

No. 19—25-ft. Cable and Connectors.

No. 20—Exhaust Hose Connector. (For Jumbo only.)

National Carbon Company, Inc.

Executive and General Sales Offices

30 East 42nd Street, New York, N. Y.

District Offices

CHICAGO KANSAS CITY NEW YORK SAN FRANCISCO

EVEREADY Radio Batteries

National Carbon Company manufactures, under the trade name Eveready, a complete line of radio "A," "B" and "C" batteries. "B" batteries fall into three broad classifications,—portable, large and heavy duty. In each class there is a preferred or *standard* type of battery, best suited to the conditions generally encountered in service. In addition to the standard "B" batteries, there are a number of *special* "B" batteries in each class which meet some special requirements or fit in the cabinets of certain receivers which will only accommodate this type.

Dealers should keep in mind the fact that Eveready heavy duty batteries (No. 770 and No. 486) give much longer life than smaller and lighter weight batteries of equal voltage. They should, therefore, always be recommended where long life, maximum satisfaction and economical operation are considerations which outweigh the factor of low first cost.

Those "B" batteries, listed below, which are marked with an asterisk are *standard.* All other "B" batteries are *special.* Some of these batteries, it will be noted, are listed as being both "B" and "C" batteries, the battery being used as a "C" battery under special conditions. The letter in parenthesis indicates whether the battery is a portable, large or heavy duty type.

Eveready Dry Cell Radio "A" Battery, No. 7111—Developed by our laboratories especially for use with dry cell vacuum tubes. Full directions and diagrams for connecting Eveready No. 7111 Dry Cell Radio "A" battery for the various dry cell tubes are printed on the jacket of each battery. Diameter 2½ in., height 6 in.

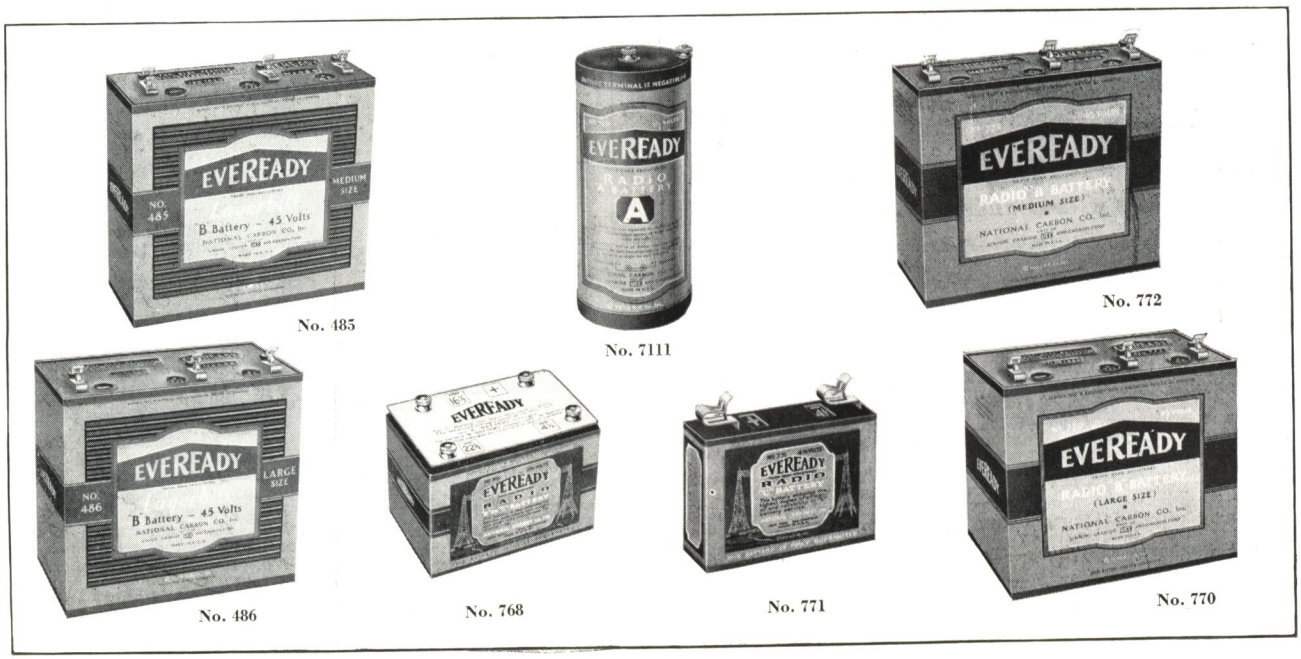
List Price

No. 7111 Radio "A" Battery..... †$.50

Dealers Note: For further detailed information and trade prices, ask your jobber.

Catalog No.	Type	Voltage	Length, in.	Width, in.	Height, in.	Weight	List Price, Each
‡763	B (P)	22½	3⅜	2 1/32	2 9/16	13 oz.	†$1.50
768	*B or C (P)	22½	4 1/16	2 9/16	2¾	1 lb. 9 oz.	1.75
766	*B or C (L)	22½	6¾	4⅛	3 5/32	4 lb. 10 oz.	2.00
‡779	B or C (L)	22½	4¼	3⅛	7⅛	4¾ lb.	2.00
767	B (L)	45	8	6¾	3 1/16	8 lb. 11 oz.	2.75
772	*B (L)	45	8 3/16	3¼	7⅛	9 lb.	2.75
485	*B (L)	45	8 3/16	3¼	7⅛	9½ lb.	2.95
770	*B (H)	45	8 3/16	4 7/16	7 3/16	13¾ lb.	4.00
486	*B (H)	45	8 3/16	4 7/16	7 3/16	14¼ lb.	4.25
771	*C	4½	4	1⅜	3	14 oz.	.50

*List prices quoted are for anywhere in the United States.
†Standard Batteries.
‡Not carried in stock but can be obtained by special order.



EVEREADY COLUMBIA DRY CELLS AND HOT SHOT BATTERIES

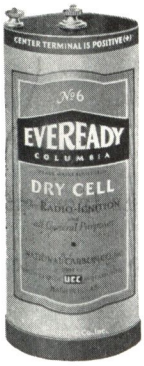
The largest laboratory devoted to dry cell research experiments continuously to make Eveready Columbia Dry Batteries "last longer." Every little while it discovers a way to add power and hours! Many notable improvements have been made such as encasing Eveready Columbia Hot Shot Batteries in steel containers making them super-durable and impervious to water. The Eveready Columbia Ignitor Dry Cell has also been developed to the point where it stands supreme for all general dry battery uses.

EVEREADY COLUMBIA Dry Batteries

Dealers Note—For further detailed information and trade prices ask your jobber.

Eveready Columbia Ignitor Dry Cell

A special high grade cell designed for all classes of heavy duty service. It is particularly adapted for door bells, buzzers, signal systems, heat regulators, gas engine ignition, lanterns, in fact, any service where a reliable long life battery is needed. When used for ignition purpose this battery assures a hot spark and renders dependable service.



The Columbia Ignitor is made of the best raw materials, properly proportioned; has low internal resistance and an unusually heavy discharge; stands idle unusually long with very slight deterioration.

Regularly furnished with round jacket and thumb nut binding posts. When specified, Fahnestock spring clips will be furnished at no additional charge.

Dimensions—Height, 6 in.; diameter, 2½ in.

Weight—2¼ lb.

*List Price, each.....$.45

Columbia Gray Label Dry Cell

The Columbia Gray Label is designed especially for telephone and light drain service.

Regularly furnished with round jacket and thumb nut binding posts. When specified, Fahnestock spring clips will be furnished at no additional charge.

Dimensions—Height, 6 in.; diameter, 2½ in.

Weight—2¼ lb.

*List Price, each..... $.35

Eveready Columbia Hot Shot Batteries

For all purposes requiring four or more dry cells in series these batteries are recommended. They are particularly adapted for tractors, small automobiles, motor boats, gas engines, blasting, fire and burglar alarms, gongs, bells, signals, small lights, camps, etc.

Because of their rugged steel construction they are super-durable and impervious to water. The handsomely lithographed steel case makes them particularly adaptable for very attractive store display.



Below is a table showing sizes, voltages, weights, packing and prices of Hot Shot batteries. The second figure of the battery number indicates the number of cells in the battery, and the last figure indicates whether the cells are arranged in one row or two.

Example—Battery No. 1461; the second figure 4 indicates that the battery contains four cells and the last figure 1, indicates they are arranged in one row, thus this type battery is of a rectangular shape.

Cat. No.	Voltage	Size, in.			Standard box	Wt. per box, lb.	*List Price, each
		Length	Width	Height			
1461	6	10 7/16	2¾	6¾	12	126	$2.30
1462	6	5⅜	5⅜	7½	6	66	2.30
1561	7½	13¼	2¾	7½	8	115	2.70
1562	7½	7⅞	5	6¾	8	105	2.70
1662	9	7 13/16	5¼	6¾	8	124	3.25

Note—Types 1461, 1462, 1562 and 1662, are furnished in steel case construction. Type 1561 is supplied in fibre container.
*List prices slightly higher in extreme western states.

EVEREADY FLASHLIGHTS & BATTERIES

The first practical flashlight ever made was an Eveready. Eveready Flashlight Batteries were the first perfected. The miniature Mazda lamp for flashlights was developed by Eveready. All tried-and-true flashlight features that insure long, trouble-proof service were pioneered by Eveready.

All Eveready Flashlights, irrespective of type or size, are practical utility lights. There are no "novelty" items in the Eveready line.

Eveready Flashlights meet every need for light—indoors and out. Portable light in its safest and most convenient form.

Features

Here are some of the reasons why Eveready leads in the flashlight field in quality:

1. Most all Eveready Flashlights are equipped with a metal ring in the end cap for hanging up flashlight when not in use. An exclusive Eveready feature.

2. Safety-lock switch which prevents accidental lighting and wasting of current.

3. Focusing device, in long-range lights, which gives widespread beam or narrow, long-range beam at the twist of a wrist.

4. Ribbed grip in either nickel or ribbon-black finish.

5. Octagonal lens ring which prevents rolling when you put the flashlight down.

6. All cases seamless brass tubing—eliminating warping or shrinkage.

7. Many cases finished in attractive durable colors and equipped with real shock absorber.

8. Guarantee of material and workmanship.

(Continued on Next Page)

EVEREADY FLASHLIGHTS AND BATTERIES (Continued)

LIST PRICES OF EVEREADY FLASHLIGHTS (LESS BATTERY)

Flashlight Case No.	Finish	Size, in.	List Price, Cases & Lamps Less Battery	Unit Cells and Lamp Required		
				†Unit Cell		Lamp No.
				No.	No. per Case	
2602*	Black	5 9/16 x 1 1/8	$0.95	935	2	1197
2604*	Black	6 5/8 x 1 1/2	.80	950	2	1198
2605		6 3/4 x 1 1/2	1.05			
2612	Black	9 1/8 x 1 1/2	1.45	950	3	1193
2660	Black	5 3/4 x 1 1/8	1.05	935	2	1197
2616*	Black	6 3/4 x 1 1/2	1.30	950	2	1198
2619*	Black	8 7/8 x 1 1/2	1.70	950	3	1193
2671	Black	7 x 1 1/2	1.30	950	2	1161
2672*	Black	9 1/2 x 1 1/2	1.70	950	3	1162
2642*	Black	9 1/2 x 1 1/2	2.70	950	3	1162
2645	Nickel	14 1/4 x 1 1/2	4.50	950	5	1163
2685	Black	7 1/4 x 3 5/8	2.80	950	2	1161

* Also made in nickel-plated finish. † For list prices of unit cells, see table at right.

LIST PRICES OF EVEREADY UNIT CELLS

Catalog No.	No. of Cells	Size, in.	List Price, each
935	1	1 3/32 x 1 3/32	$0.10
950	1	2 27/64 x 1 11/32	.10
705	3	7 13/64 x 1 11/32	.30
706	2	4 3/32 x 19/32	.15
750	2	2 5/16 x 1 11/32 x 11/16	.15
790	2	4 15/16 x 1 11/32	.20
791	2	3 15/16 x 1 11/32	.20

EVEREADY UNIT CELLS

Eveready Unit Cells are full of life—made by the world's largest makers of dry cells to conform to the highest standards of performance.

Made in only two sizes, they fit any tubular case requiring two or three cells.

These cells may also be used in various types of lanterns that are on the market.

Assembled batteries as listed are also available.

EVEREADY FLASHLIGHTS IN DISPLAY PACKAGES

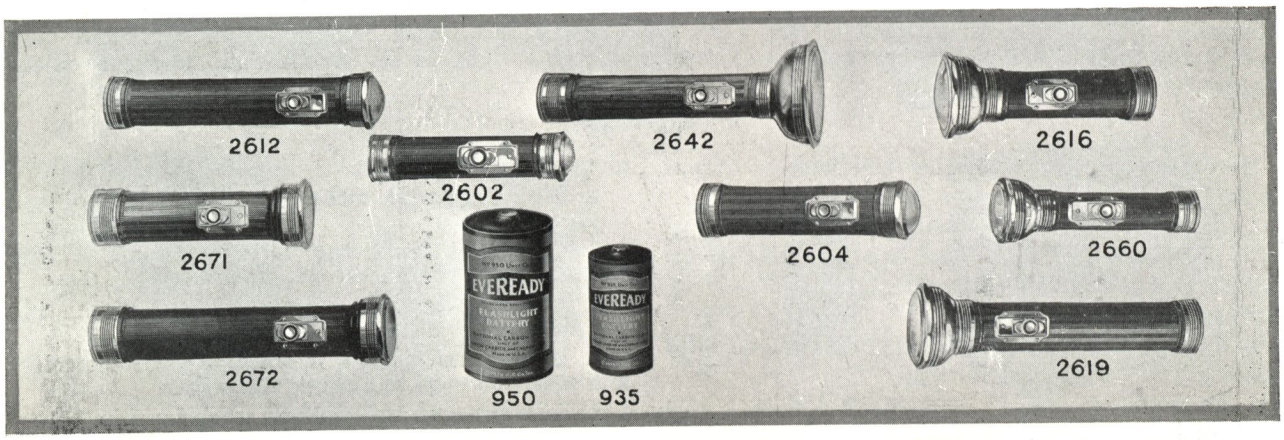
Catalog No.	Unit package Contents	List price per unit package without batteries	Unit package quantity
2 (Penlight)*	3 nickel, 3 cream, 6 green	$ 9.00	12
21 (Color)	1 each (No. 2602—old rose and blue) 1 each (No. 2605—red and blue) 3 each (No. 2671—red and blue) 2 each (No. 2697)	15.40	12
30 (Black)	4 No. 2604 1 No. 2616 4 No. 2671 2 No. 2672 1 No. 2697	14.90	12

* Uses No. 706 Battery and Lamp No. 1180.

EVEREADY FLASHLIGHTS IN COLOR

Catalog No.	Color and type	List price (case and lamp less battery)	*Unit package quantity	Unit Cells and Lamp Required		
				Unit Cell		Lamp No.
				No.	No. per Case	
2602	Old rose or blue—baby tubular	$0.95	4	935	2	1197
2605	Red or blue—2-cell tubular	1.05	4	950	2	1198
2671	Red or blue—2-cell focusing	1.30	4	950	2	1161
2697	Khaki—2-cell Boy Scout	1.80	4	950	2	1161

* A unit package contains one color only.



Dealers stocking Eveready Mazda Lamps can cash in on the power of two famous names.

A complete line of flashlight and automobile lamps is marketed by National Carbon Company, Inc.; complete information on prices and specifications can be secured from price lists and guides which will be furnished to the trade on request.

EVEREADY MAZDA MINIATURE LAMPS

Dealers can secure Eveready Mazda Lamps through their jobbers.

For Counter or Wall



Cabinet No. 1743, as illustrated, holds 50 automobile lamps of four popular types and three metal kits:

10 Eveready Mazda Lamps No. 1110 @ 27c	$2.70
10 Eveready Mazda Lamps 1129 @ 23c	2.30
10 Eveready Mazda Lamps No. 1158 @ 26c	2.60
20 Eveready Mazda Lamps No. 63 @ 12c	2.40
3 Eveready Metal Lamp Kits @ 20c	.60
List Price	$10.60
Cabinet, net	.50

The No. 1743 is 16½ in. high by 8 in. wide by 6½ in. deep. It takes up less than a square foot of counter space or it can be hung on the wall out of the way, yet in sight.

EVEREADY MAZDA AUTOMOBILE LAMPS

Mazda No.	List price, clear	Type and size bulb	Volts	†Base	Candle power rating
Mazda 61	$0.20	G-6	3-4	S.C.	2
Mazda 63	.12	G-6	6-8	S.C.	3
Mazda 64	.12	G-6	6-8	D.C.	3
Mazda 67	.22	G-6	12-16	S.C.	3
Mazda 68	.22	G-6	12-16	D.C.	3
Mazda 81	.13	G-6	6-8	S.C.	6
Mazda 82	.13	G-6	6-8	D.C.	6
Mazda 87	.22	S-8	6-8	S.C.	15
Mazda 88	.22	S-8	6-8	D.C.	15
Mazda 89	.30	G-6	12-16	S.C.	6
Mazda 90	.30	G-6	12-16	D.C.	6
**Mazda 1110	.27	S-10	6-8	D.C.	21 & 21
*Mazda 1114	.45	S-10	6-8	D.C.	21 & 21
**Mazda 1116	.45	S-10	6-8	D.C.	32 & 21
Mazda 1129	.23	S-10	6-8	S.C.	21
Mazda 1130	.23	S-10	6-8	D.C.	21
Mazda 1133	.40	S-10	6-8	S.C.	32
Mazda 1134	.50	S-10	6-8	D.C.	32
Mazda 1138	.40	S-10	9	D.C.	27
Mazda 1141	.40	S-10	12-16	S.C.	21
Mazda 1142	.40	S-10	12-16	D.C.	21
*Mazda 1158	.26	S-10	6-8	D.C.	21 & 2
Mazda 1160	.35	S-10	9	D.C.	21
Mazda 1170	.45	S-10	6-8	D.C.	21 & 6
*Mazda 1172	.45	S-10	6-8	D.C.	32 & 6

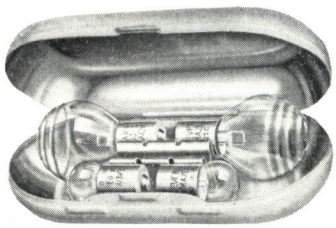
*Headlight lamp for Ford cars (two filaments).

**Headlight lamp having two filaments. (Also used in 1929 Fords equipped with Two-Lite lenses.)

†S.C.—Single contact; D.C.—Double contact.

The New Metal Eveready Mazda Auto Lamp Kit

A compact, low priced kit of simple construction which increases the dealer's unit of sale from one to four lamps. Its sturdiness, convenient size and design will allow the kit to be thrown among loose tools without breakage. The lamps lock securely in place—they can not rattle or work loose. Furnished in handsome attractive colors.



Special Offer—With every order for 100 metal lamp kits, a special rubber stamp and an acid ink-pad will be furnished free of charge. By the use of these materials a dealer can imprint his name and address on the inside cover of each kit he sells. The acid ink will etch the dealer's name right on the metal.

To obtain a stamp bearing his name, together with an ink-pad, the dealer should order five unit packages (100 kits) and specify the exact wording he wishes the stamp to show (not more than four lines). Stamp ink-pad and kits will be shipped direct from the nearest National Carbon Company office. The dealer will be billed, however, in the usual way.

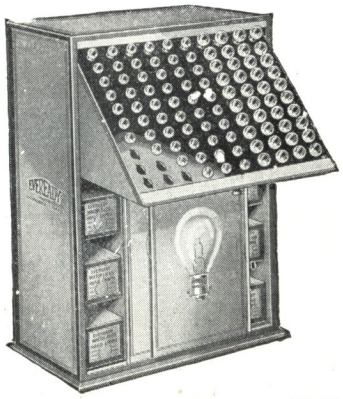
SPECIFICATIONS AND PRICES

Stock No.	Size, in. Length	Width	Thickness	Unit pkg. quantity	List price, each (empty)
1742	5¼	2½	1½	20	$0.20

Order in unit packages of 20.

Eveready Auto Lamp Display and Stock Cabinet

The new No. 1730 Eveready Auto Lamp Cabinet is both attractive and practical and has several exclusive features. It offers a convenient means of stocking *a total of 220 auto lamps in daily demand at your finger tips.* There are two compartments—upper and lower. The upper tilting compartment stocks and displays, in a very unique manner, 100 assorted side, rear and instrument lamps. When closed, it is flush with the front of the cabinet. The lower compartment, equipped with shelves and sliding doors, conveniently holds 12 unit cartons of assorted headlight lamps. It is handsomely finished in red, blue and gray — the standard Eveready colors. Placed on the counter or shelf it constantly reminds the car owner that he needs lamps.



Price (without lamps) each.....$5.00

THE BLACK & DECKER MFG. CO.

Portable Electric Tools *"With the Pistol Grip and Trigger Switch"*

ATLANTA
BALTIMORE
BOSTON
BUFFALO
CHICAGO
CLEVELAND
DALLAS
DETROIT

SLOUGH, BUCKS, ENG.

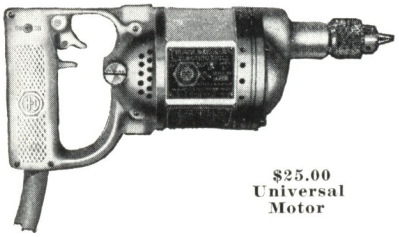
KANSAS CITY
MINNEAPOLIS
NEW YORK
OAKLAND
PHILADELPHIA
ST. LOUIS
MONTREAL
TORONTO

SYDNEY, AUSTRALIA

TOWSON, MARYLAND

Black & Decker Electric Tools are carried in stock by the leading electrical, mill supply, machinery, plumbing and hardware supply houses. Call your regular supply house on the 'Phone.

¼-in. Light-duty Electric Drill

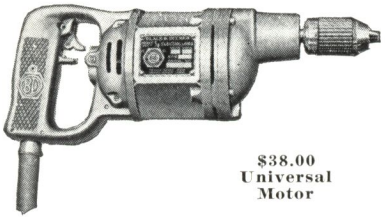


$25.00
Universal
Motor

A general purpose drill for light work on intermittent service. For 32, 110, 220 or 250 volts. Operates on A.C. or D.C. Furnished with cable, plug, and 3-jaw geared chuck.

Capacity in steel ..... Up to ¼-in.
No-load speed ..... 2000 r.p.m.
Net weight ..... 5 lb.

¼-in. Heavy-duty Ball-bearing Electric Drill



$38.00
Universal
Motor

Will work continuously under the most severe condition. Ball bearings on armature shaft and on spindle. Operates on A.C. or D.C. Furnished for 32, 110, 220 or 250 volts.

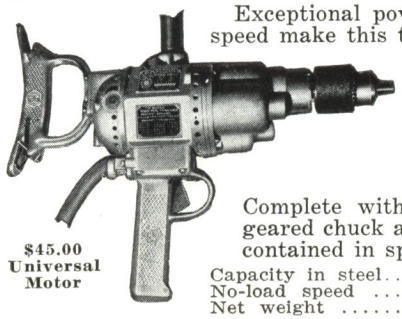
Capacity in steel ..... Up to ¼-in.
No-load speed ..... 2000 r.p.m.
Net weight ..... 7¼ lb.

5/16-in. Ball-bearing Electric Drill

A continuous production tool having ball bearings, and heat-treated steel gears in a greasetight compartment. Operates on A.C. or D.C. Furnished for 32, 110, 220 or 250 volts. Complete with cable, plug and 3-jaw keyless chuck.

Capacity in steel ..... Up to 5/16-in.
No-load speed ..... 1400 r.p.m.
Net weight ..... 7½ lb.
Price, all voltages $48.00

½-in. Ball-bearing Electric Drill

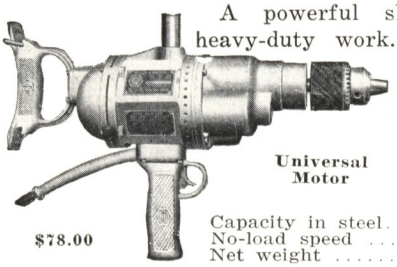


$45.00
Universal
Motor

Exceptional power and low spindle speed make this the ideal tool for all general and maintenance work. Finest bearing and steel gear design throughout. For 32, 110, 220 or 250 volts, A.C. or D.C. Complete with cable, plug, 3-jaw geared chuck and chuck key holder contained in spade handle.

Capacity in steel..... Up to ½-in.
No-load speed ..... 400 r.p.m.
Net weight ..... 12½ lb.

¾-in. Ball-bearing Electric Drill



$78.00

Universal
Motor

A powerful slow-speed drill for heavy-duty work. For 110, 220 or 250 volts, A.C. or D.C. Complete with cable, plug, 3-jaw geared chuck and detachable side handle.

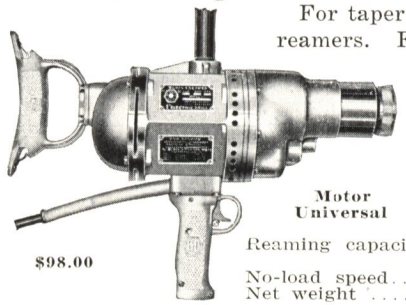
Capacity in steel..... 3/16 to ¾-in.
No-load speed ..... 425 r.p.m.
Net weight ..... 23½ lb.

⅝-in. Ball-bearing Electric Drill

A general purpose drill of tremendous power and light weight. Universal motor. Furnished for 32, 110, 220 or 250 volts. Detachable side handle, and complete with cable, plug and 3-jaw geared chuck.

Capacity in steel ..... 5/32 to ⅝-in.
No-load speed ..... 500 r.p.m.
Net weight ..... 17½ lb.
Complete $68.00

1-in. Ball-bearing Electric Drill



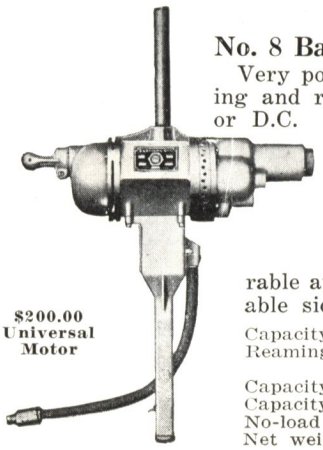
$98.00

Motor
Universal

For taper shank drill bits and reamers. For 110, 220 or 250 volts, A.C. or D.C. Complete with cable, plug and detachable side handle. Drilling capacity in steel, up to 1 in.

Reaming capacity in steel, 1/16 to ½-in.
No-load speed..... 350 r.p.m.
Net weight ..... 26 lb.

No. 8 Ball-bearing Electric Drill

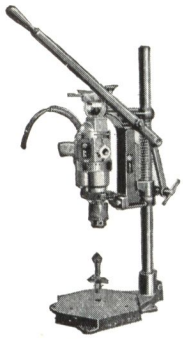


$200.00
Universal
Motor

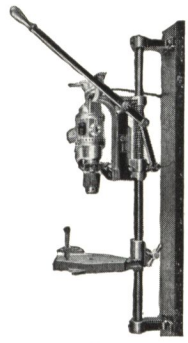
Very powerful tool for heavy drilling and reaming. Operates on A.C. or D.C. Furnished for 110, 220 or 250 volts. Standard equipment: Spade handle, No. 4 Morse taper socket for taper shank drill bits from 59/64" to 1½", electric cable, separable attachment plug, and detachable side handle.

Capacity in steel.... 59/64 to 1½-in.
Reaming capacity in steel 37/64 to 15/16-in.
Capacity in hardwood up to.... 4-in.
Capacity in coal up to..... 2-in.
No-load speed ..... 350 r.p.m.
Net weight ..... 66 lb.

Black & Decker Bench and Post Drill Stands



Branch Stand



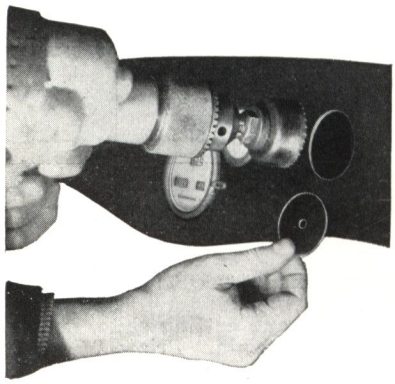
Post Stand

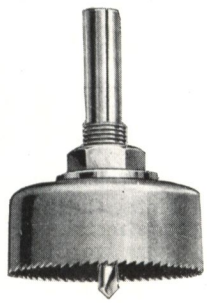
With the use of a Black & Decker Bench or Post Drill Stand your portable electric drill can be quickly and easily converted into an extremely efficient drill press. The operating handle has a 6 to 1 leverage (enabling the operator to exert tremendous power on the work. The bracket carrying the tool can be raised or lowered on the column or swung in a circle and is secured by a split collar and clamping screw. Screw drivers or tappers can also be used in these stands to relieve the operator from the torque of the tool.

Unit	Bench stands		Post stands	
	Cat. No.	Price	Cat. No.	Price
¼″ (all types)	10040	$12.00	.....	.....
5/16″	10040	12.00	.....	.....
½″	10130	18.00	.....	.....
5/8″	10150	28.00	20150	$32.00
¾″	10210	28.00	20210	32.00
1″	10240	28.00	20240	32.00
Nos. 1 and 2 Screwdriver	10040	12.00	.....	.....
No. 3 Nut Runner	10140	28.00	20140	32.00
No. 4 Nut Runner	10220	28.00	20220	32.00
No. 2 Tapper	10040	12.00	.....	.....

Be sure to mention drill code number when ordering, so that proper adapter can be supplied.

Black & Decker Hole Saws





Black & Decker Hole Saws increase the range of a ½″ electric drill to 3½″ and are used for cutting clean round holes in metal, wood, or any material that can be cut with a hack saw.

Made of the finest quality tungsten steel, carefully hardened, strong and durable. The mandrel automatically holds a ¼″ twist drill which drills the pilot hole to serve as a guide for the saw. Holes up to ⅞″ deep can be cut.

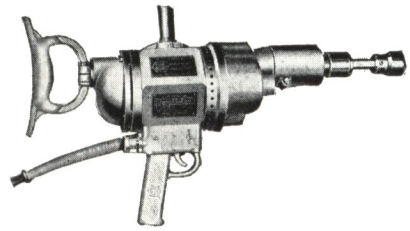
HOLE SAW ONLY (without Mandrels)

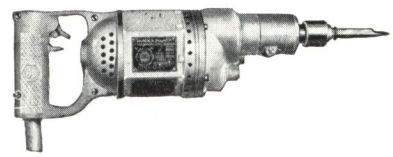
Saw size	Use with Mandrel No.	Price
¾″, ⅞″, 1″, 1⅛″	00903	$ .60
1¼″, 1⅜″, 1½″	00904	.60
1⅝″, 1¾″, 1⅞″, 2″, 2 1/16″, 2⅛″	00904	.90
2¼″ to 3½″ inclusive	00904	1.25

MANDRELS

00903	Mandrel with pilot drill (for ¾″ to 1⅛″ saws)	$1.50
00904	Mandrel with pilot drill (for 1¼″ to 3½″ saws)	1.50

Black & Decker Screw Drivers and Nut Runners



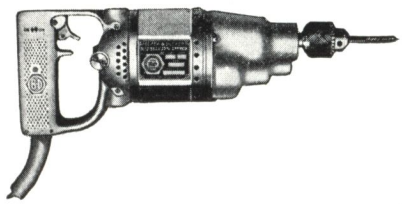


Black & Decker Screw Drivers and Nut Runners have been designed to speed up your work. They will drive wood screws, lag screws, and nuts or bolts in a fraction of the time required by hand. These units are ball-bearing throughout and are provided with positive clutch which releases when forward pressure on tool is relieved.

	Screw driver		Nut runner	
	No. 1	No. 2	No. 3	No. 4
No–load Speed, r. p. m.	500	500	500	500
Net weight, lb.	7	9	18	27
Reversing switch, extra	$10.00	$10.00	$15.00	$ 15.00
Price, all voltages	48.00	68.00	88.00	108.00

Furnished for 32, 110, 220 or 250 volts.
Universal motors operate on either A. C. or D. C.

Black & Decker No. 2 Ball-bearing Tapper



Designed for tapping threads in steel, cast iron, brass or aluminum at a much greater speed than is possible by hand. The 3-jaw geared tap chuck automatically reverses and backs the tap out of the threaded hole at double speed when operator gives a backward pull on the machine. No reversing switch is needed.

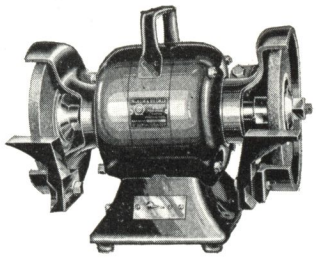
Ball bearings are used on the armature shaft; all gears and clutch are of special steel, carefully heat-treated.

Capacity in cast iron, ⅜″ tap; in steel, ¼″ tap; in brass or aluminum, ½″ tap.

No-load speed, 300 r.p.m.; net weight, 9½ lb. Price, all voltages $78.00

(Continued on Next Page)

6-in. Ball-bearing Bench Grinder



An entirely new, powerful grinder with ball bearings throughout, designed for general purpose grinding and tool sharpening. Wheel guards are adjustable, making it possible to grind at any position on the wheel circumference. Rubber feet and lifting handle afford the utmost in convenience. This grinder is practically vibrationless, due to the inherent balance and the shock absorbing qualities of the rubber feet.

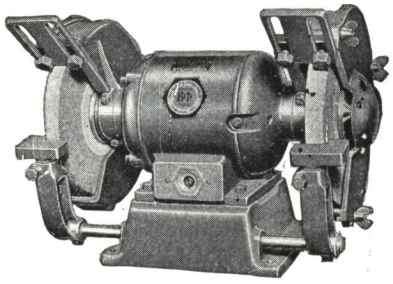
Size of wheels, 6″ diameter, by ½″ face by ½″ hole
Net weight ..... 36 lb.
Motor ..... 110 volts, 50-60 cycles, single phase, A.C.
No-load speed ..... 3600 r.p.m.
Price $35.00

7-in. Ball-bearing Bench Grinder

An ideal ball-bearing grinder for sharpening all kinds of edge tools and for general purpose grinding. Ideal for factory use. Complete as illustrated.

Size of wheels, 7″ diameter by ¾″ face by ½″ hole
No-load speed, for 60 cycles A.C. and D.C. ..... 3600 r.p.m.
(for 25 cycle, 1500 r.p.m.; for 40 cycle, 2400 r.p.m.; for 50 cycle, 3000 r.p.m.)
Net weight ..... 50 lb.
Price, all voltages $56.00
Pedestal, extra 14.00
Furnished for 32, 110 or 220 volts.

10-in. Ball-bearing Bench Grinder



A powerful ball-bearing bench grinder designed for use on either bench or pedestal to take care of tool grinding and all types of general grinding and buffing. It is equipped with enclosed type of safety wheel guards with adjustable tongue to follow up the wheel wear.

Two grinding wheels, 10″ in diameter by 1″ face by ¾″ hole (one coarse and one fine), are supplied as standard equipment.

No-load speed for D.C. ..... 2000 r.p.m.
(for 25 cycle, A.C., 1500 r.p.m.; 40 cycle A.C., 2400 r.p.m.; 50 cycle A.C., 1500 r.p.m.; 60 cycle A.C., 1800 r.p.m.)
Net weight ..... 120 lb.
Price, all voltages $118.00
Pedestal, extra 24.00
Furnished for 110 or 220 volts.



Grinding Wheels

Black & Decker Grinding Wheels can be obtained for Black & Decker Bench Grinders, Portable Grinders, Grinding Outfits, and Valve Refacers, in sizes applicable to these units. Your jobber has them in stock.

Portable Electric Grinders

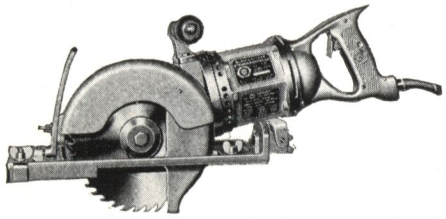


Black & Decker 4″, 5″ and 6″ Portable Electric Grinders have been designed to efficiently take care of any type of portable grinding work within the limits of their rated capacity. These grinders have anti-friction bearings throughout. The powerful universal motor armatures in these grinders are mounted on ball bearings equipped with dust seals. The grinding wheel spindle is driven through a set of special steel gears, carefully heat-treated. Grinder spindle is carried in a long housing with taper roller bearings at the extreme ends.

Grinder	Grinding wheel size			No-load speed, r. p. m.	Net wt., lb.	Price, all voltages
	Diam.	Width	Diam. of hole			
4″	4″	¾″	½″	4800	10	$60.00
5″	5″	¾″	½″	3800	15	80.00
6″	6″	1″	⅝″	3300	24	90.00

Furnished for 110, 220 or 250 volts.
Universal Motors operate on either A. C. or D. C.

Portable Electric Saws



In all types of building work, large construction jobs, railroad car repair work, etc., the Black & Decker Saw will quickly pay for itself, due to the tremendous saving in time and labor. These saws, built in 6″, 8″ and 10″ sizes, are full ball-bearing and have chrome-nickel gears and shafts throughout. Shoe adjustable from 0° to 45° and notched for following pencil line on work. The saw blade is entirely enclosed with telescopic guard, providing the maximum in safety. With the use of proper saw blade or abrasive disc, will also cut light gauge metal, slate, marble, asbestos, tile, transite and porcelain.

	6″ saw	8″ saw	10″ saw
Diameter saw blade	6″	8″	10″
Depth of cut (adjustable)	1¾″	2½″	3½″
No-load saw speed (r. p. m.)	3000	2500	2000
Net weight (lb)	18¼	26	33¾
Price, all voltages	$95.00	$135.00	$165.00

Furnished for 110, 220 or 250 volts.
6″ saw also furnished for 32 volts.
Universal motors operate on either A. C. or D. C.

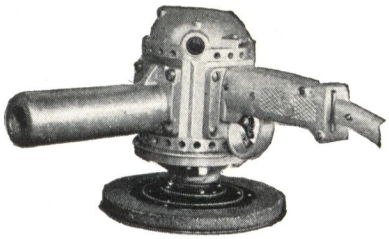
Saw Accessories

Metal Cutting Saw—Designed for cutting soft, light gauge metal. Price for 6″ saw, 3.75; for 8″ saw, $6.00.

Abrasive Disc—For sawing and cutting slate, marble, asbestos, tile, transite and porcelain. Price: 6″ x ⅛″, $2.50; 8″ x ⅛″, $3.50.

Special Saws	Used with		
	6″ saw	8″ saw	10″ saw
40-tooth rip saw	$4.50	$6.00	$ 7.50
100-tooth crosscut saw	4.50	6.00	7.50
Planer saw	7.50	9.50	12.00

Portable Electric Sander



Black & Decker 7″ and 9″ ball-bearing portable electric sanders will quickly and easily perform sanding, grinding, cleaning, smoothing, rubbing and polishing operations.

In automotive work they are particularly well adapted for removing rust and corrosion before painting. They also perform the tedious work of rubbing down and polishing lacquer paints in a fraction of the time required by hand.

In industrial work they are used for smoothing flat or curved surfaces, welds, soldered seams, and for cleaning dies. They can be used with abrasive discs of various grades, from the finest sand paper to the coarsest emery.

	7-in. sander	9-in. sander
Diameter of sanding disc	7″	9″
No-load speed in r.p.m.	4500	2700
Net weight in pounds	9½	12½
Price, all voltages	$68.00	$88.00
Extra Sanding Discs (per doz.)	3.60	4.80

Furnished for 32, 110, 220 or 250 volts.
These sanders have universal motors and will operate on either A. C. or D. C.

Sander Accessories



Cup Grinding Wheel



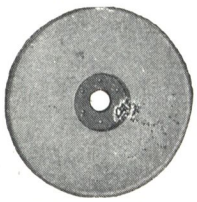
Wire Wheel Brush



Spindle Extension



Wire Cup Brush



Felt Rubbing Pad



Lambswool Polishing Pad

Cup Grinding Wheel—For smoothing welds and other surfaces where considerable metal is to be removed.
For 7″ and 9″ Sanders $2.50

Wire Wheel Brush—For cleaning and removing rust from surfaces before painting.
For 7″ and 9″ Sanders $3.50

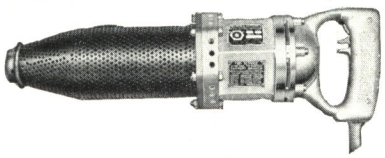
Wire Cup Brush—Specially designed brush for cleaning castings, structural steel tanks, and sheet metal.
For 7″ and 9″ Sanders $6.00

Spindle Extension—For attaching cup grinding wheels and wire wheel brush to sander.
For 7″ and 9″ Sanders $2.00

Felt Rubbing Pad—For rubbing down lacquer and for polishing.
For 7″ Sander $1.50
For 9″ Sander 2.00

Lambswool Polishing Pad—For cleaning and polishing lacquer finishes and for obtaining final high lustre.
For 7″ Sander $2.75
For 9″ Sander 4.00

Portable Electric Hammers



Black & Decker Portable Electric Hammers are ideal for driving any type of tool where hammer action is desired, such as star drills, steel chisels, wood working chisels, etc. They are particularly well suited for drilling holes in concrete, stone, brick, marble, or tile.

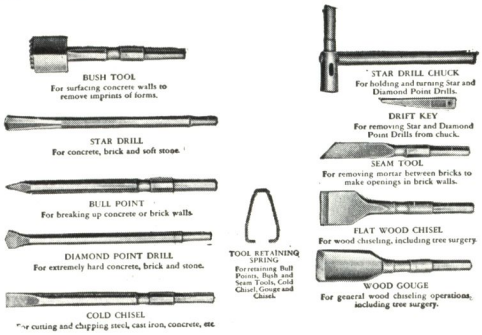
Obtainable in No. 2, No. 4, and No. 6 sizes, it is possible for you to select a hammer having the capacity best fitted for your particular application.

Each hammer is packed in a fibre carrying case together with one star drill, one drift key, one tool retaining spring, and the corresponding chucks and turning wrenches.

	No. 2	No. 4	No. 6
Drilling capacity	⅝″	1⅛″	1½″
Number of blows per minute	3300	2900	2900
Net weight, lb.	10	16½	23
Overall length	16⅝″	19″	20¾″
Price, all voltages	$145.00	$185.00	$245.00

Furnished for 110, 220, or 250 volts.
Universal motors operate on either A. C. or D. C.

Hammer Tools



The hammer tools illustrated are specially designed and should be used to secure best results from Black & Decker Electric Hammers.

Star drills and diamond point drills can be obtained in sizes ranging from ¼″ to 2″ in diameter, in 5″, 9″, 12″, 16″, 20″, and 24″ lengths.

Consult your jobber for prices and additional information on these Black & Decker Hammer Accessories.

Glue Pots

A scientifically designed product which maintains glue at a constant temperature. The heating element is of Nichrome ribbon, with mica plates a thermostatic control maintains the glue at a temperature of 150 degrees, Fahrenheit.



The glue container is made of cast aluminum, carefully machined to properly fit the gray iron water receptacle, thereby conserving heat. The sloping sides reduce tendency of spillage down the sides.

Supplied for 110 and 220 volts—alternatng current only.
Price $27.00

The Boston Woven Hose and Rubber Co.

Manufacturers of Bull Dog Friction Tape

CAMBRIDGE, MASS.

BULL DOG TAPE—IT STICKS—IT HOLDS—IT LASTS

Bull Dog—the quick-repeating tape for the electrical trade—is made of strong, closely-woven cotton sheeting that is woven to our specifications. This fabric is run through calenders, where, under heavy pressure, heated steel rolls work *live gum rubber* into the texture *on both sides*, and a final coat of tacky gum rubber compound is applied over all.

Bull Dog Tape contains no free sulphur and is so balanced in material and composition that it keeps fresh and stays sticky—it will not dry out in the roll or on the job.

Bull Dog Tape is especially recommended for the electrical trade because the gum compound which is applied on both sides has an extra heavy fibrous coating which makes a smooth, sure-gripping permanent joint with high insulation resistance and excellent waterproofing qualities.

Bull Dog is made to give maximum service and it costs far less for the service rendered than do the lighter tapes on the market.

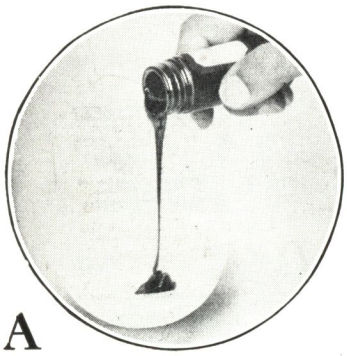
It Sticks—Wherever Bull Dog Tape touches another surface, it sticks—this is due to the highly adhesive nature of the compound.

It Holds—Once stuck to a surface, Bull Dog Tape is true to its name—it holds tenaciously and will not let go.

It Lasts—Bull Dog joints will be found alive even after years of service—the joint remains intact, waterproof, and proof against changes of temperature.

It Will Not Ravel—Bull Dog Tape has exceptionally long yardage, and, due to the special methods of rolling and cutting, it is free from raveling.

Why Bull Dog Tape Stays Sticky



A

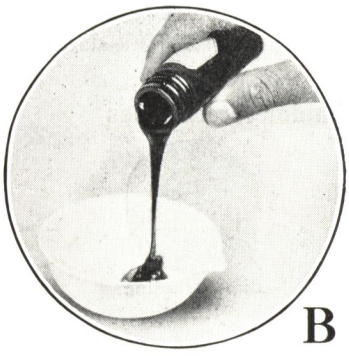
These two materials look alike—both are dark brown in color, highly viscous and hardly distinguishable from each other except by the odor. Both are used in large quantities for making friction tape. Although they look alike, they are not alike—they are widely different in origin, in nature and in their suitability for making good tape.

"A" is a resinous vegetable product, and when combined with rubber, is very sticky, but it hardens with age and becomes brittle. "B" is a mineral product which has remained in the same form since prehistoric times—it is as sticky as "A" and when added to rubber, *it stays sticky*, which is important in friction tape.

Bull Dog Tape contains "B" but none of "A"—if we were to use the vegetable instead of the mineral product, the two tapes would look alike because the two substances look alike, but they would not age alike.

There are many friction tapes on the market which look like Bull Dog, but appearances are deceiving as evidenced by the aforementioned comparison.

What is true of raw materials is true of finished tape.



B

Bull Dog Electric Tape

Made especially for the electrical trade.

A great favorite with wiremen.

Noted for its high insulation and adhesive qualities, and strong friction.

Bull Dog Friction Tape

A high grade tape made for electrical use, also for other multitudinous uses to which a friction tape can be put. A popular tape that brings satisfied customers back to dealers who handle it.

How Packed

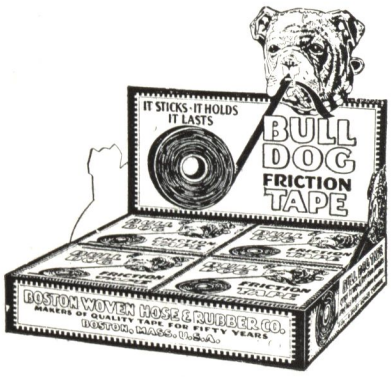


Bull Dog Tape is made in black only, ¾ in. wide.

For the electrician, Bull Dog Tape is packed in 8 and 4-oz. sizes, in individual rolls wrapped in tin foil and attractively labeled; when preferred, these tin-foil-wrapped rolls can be packed in our regular Bull Dog cartons, packed 100 rolls (50 lb. to the shipping case), without display containers.

For the dealer, each roll of Bull Dog Tape is wrapped in tin foil and packed in an attractive 3-color carton—from 8 to 32 of these cartons are nested in attention-compelling counter or window display containers as follows:

Size	Number of rolls in container	Number of rolls in shipping case
8-oz.	8 (4 lb.)	96
4-oz.	16 (4 lb.)	192
2-oz.	16 (2 lb.)	384
1-oz.	32 (2 lb.)	768



IDEAL COMMUTATOR DRESSER CO.

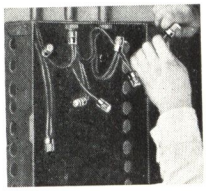
1055 Park Avenue, Sycamore, Ill.

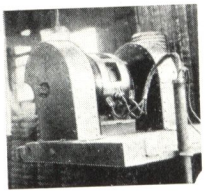
Branch Offices

CHICAGO.....549 W. Washington Blvd.....Phone—Randolph 6140-41
NEW YORK.....18 Warren St.....Phone—Cortland 7860 or 1106
PITTSBURGH.....107 Sixth St.....Phone—Grant 4097

IDEAL Universal Wire Connectors
(Solderless——Tapeless)







For new construction wiring, rewiring, fixtures, roughing-in work, signs, appliances, machinery, radios, refrigerating machines, vacuum cleaners, etc., etc. —wherever there are wiring joints to be made.

Simply slip the Ideal Connector over the wire ends and screw on exactly as you would screw a nut on a bolt. The tapered spring insert causes wires to be wedged into connector and held in a vise-like grip of steel.

The spring acts as a mousing or come-along, resulting in a tighter grip when tension is applied to the joint—a vitally important feature exclusive with Ideal Connectors.

Insulating material will not melt and is puncture-proof at 10,000 volts.

One size Ideal Connector fits all common wiring joints, small motor taps, etc. Special large size for general industrial use. Special small size for fixture wiring in small canopies and appliances.

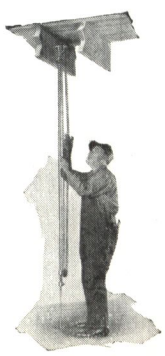


Ideal Wire Connector Display Carton

IDEAL, the leading Wire Connector. Fully protected by original basic patent No. 1,700,985.

Fully approved by Underwriters and Factory Mutual Lab. Recommended in National Electric Code.

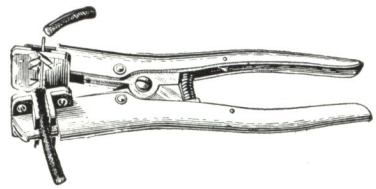
Samples sent upon request.



IDEAL "Bowlus" Boring Machine —Pays for Itself on First Job

Quickly adjustable to any height from 7 ft. to 11 ft. on overhead work. Eliminates back-breaking stooping for floor work. Operates equally well on new or old floor. Drills holes at right angles (or at any angle) to rafters, joists or studdings. Only three moving parts. So light and easy to handle that the youngest apprentice can operate it. *Five times as fast as brace or breast drill.* Priced for quick, easy sales.

IDEAL "E-Z" Wire Stripper

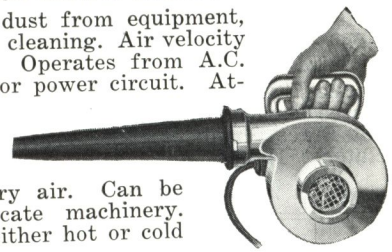


Needed by every electrical mechanic and worker. Always ready for use. One squeeze on the handle clamps the wire, cuts the insulation and strips the wire. Releasing pressure opens the handle and resets the stripper for the next snip. Absolutely safe; protects both wire and hands. Thousands in use.

IDEAL Fuse Puller

Designed to eliminate danger in pulling and replacing cartridge fuses. A handy insulated tool for safely adjusting switch and cut-out clips. Approved.

IDEAL Combination Blower and Suction Devices



Used for blowing dust from equipment, spraying and vacuum cleaning. Air velocity 214 miles per hour. Operates from A.C. or D.C. light socket or power circuit. Attachments available for all cleaning problems. Most powerful blower on market. Delivers dry air. Can be used on most delicate machinery. One model delivers either hot or cold air, as desired.

Sent on 5-day free trial.

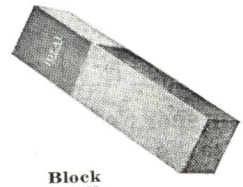
IDEAL Motor Maintenance Tools



Slip Ring Type



Saw Handle Type



Block Handle

Commutator and Slip-Ring Resurfacers—Ideal Resurfacers are standard in over 15,000 plants for removing high bars, grooves, ridges, high mica and burns while machines are in operation. Most efficient product on market: 85% copper cut against 15% stone used. Non-copper collecting and fully guaranteed. Protected by basic patent No. 1,660,316.

Sent on 10-day free trial.

Commutator and Slip-Ring Precision Grinders—Attach to brush arm or adjustable brackets mounted or clamped to armature bearing supports, eliminating the necessity of removing the armature for turning badly-worn commutator, or slip rings. Models for open-type machines as well as those having outboard fans.

Sent on 10-day free trial.

Ideal Power Mica Undercutters—Light and heavy duty types for both shop and field use. Only 3½ in. space required. No dismantling of brush rigging.

Sent on 10-day free trial.

Ideal Slot Cleaner and Grinder—Unit of Mica Undercutter.

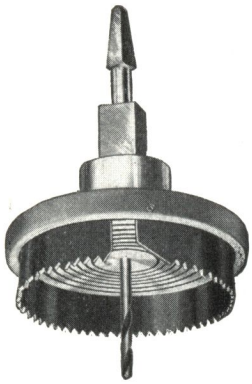
MISENER MFG. CO., INC.

Misener Rotary Hack Saw "The Tool That Cuts Circles"
Misener Safety Conduit Seals

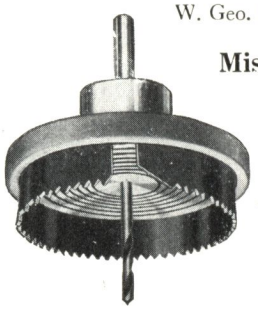
SYRACUSE, NEW YORK

Canadian Distributor
W. Geo. Borland, 1240 Union Ave., Montreal

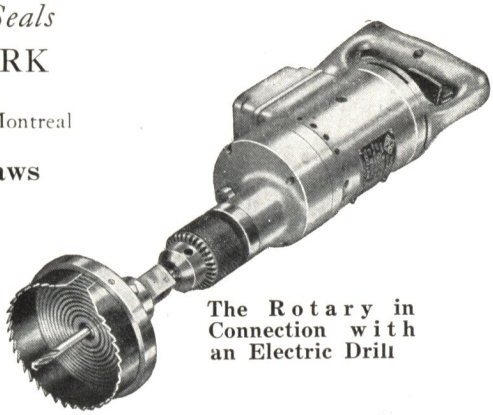
Misener Rotary Hack Saws



Type B



Type P



The Rotary in Connection with an Electric Drill

The ROTARY cuts a clean, finished round hole in steel, sheet metals, cast iron, marble, slate, wood, plaster, bakelite and fibre.

Blades for all of our Tools are available in ½-in., ¾-in., 1-in., 1¼-in., 1½-in., 1¾-in., 2¼-in. and 2¾-in. depths.

Special ROTARY Tools for any diameters required made to specifications—single pieces or in quantity for distribution.

No. 2 Rotary Hack Saw—Cuts conduit sizes from ¾ to 4 in.—nine in all. The openings made are just right for entering or passing conduit through.

Type B, with set of ½ in. depth of blades..... $13.50
Type P, with set of ½ in. depth of blades..... 13.50

Extra Parts—

Round Straight Power Shank..... $1.75
Morse Taper Power Shank..... 1.75
Bit Brace Shank..... 1.50
Ratchet Handle Attachment..... 3.00

NO. 2 BLADES

Depth, in.	Outside diameter of pipe, in.									
	¾	1	1¼	1½	2	2½	3	3½	4	Set
½	$.18	$.18	$.21	$.21	$.26	$.26	$.35	$.35	$.35	$2.35
¾	.21	.21	.26	.26	.35	.35	.44	.44	.44	2.96
1	.35	.40	.40	.45	.55	.60	.65	.65	.70	4.75
1¼	.45	.50	.55	.60	.70	.75	.80	.90	.90	6.15

No. 4 Rotary Hack Saw—Cuts conduit sizes from ½ to 2 in.—six in all. The openings made are just right for entering or passing conduit through.

Type B, with set of ½ in. depth of blades..... $7.00
Type P, with set of ½ in. depth of blades..... 7.00

Extra Parts—

Round Straight Power Shank..... $ .75
Morse Taper Power Shank..... 1.00
Bit Brace Shank..... .75

NO. 4 BLADES

Depth, in.	Outside diameter of pipe, in.						
	½	¾	1	1¼	1½	2	Set
½	$.18	$.18	$.18	$.21	$.21	$.26	$1.22
¾	.21	.21	.21	.26	.26	.35	1.50
1	.35	.35	.40	.40	.45	.55	2.50
1¼	.45	.45	.50	.55	.60	.70	3.25

Misener Safety Conduit Seals

The SEALS are of heavy fibrous stock impregnated with paraffin wax. They are slipped into the conduit bushings while the building is under construction—keeping the exposed conduit airtight and water, dirt and cement proof.

It is not necessary to remove the bushings when ready to fish the wire—the SEALS are easily destroyed with a screwdriver or knife.

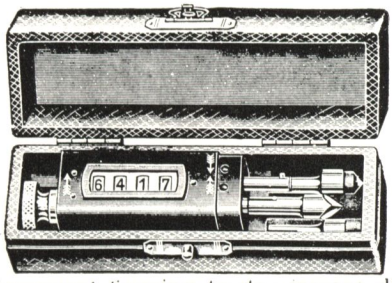
Seals are inexpensive—plugged up conduits are costly.



Bushing size, in.	Std. pkg.	Price per 100
½	500	$.20
¾	250	.25
1	250	.25
1¼	150	.30
1½	150	.35
2	150	.50
2½	100	.70
3	100	.90

Seals are sold in standard packages only.

Misener Direct Reading Speed Indicator



No mathematical figuring to do—instant direct reading. Used by mechanical, maintenance and efficiency engineers, mill wrights and for electric motor work.

Price with case..... $5.00

Misener Low Speed Electric Drills

Type/M-O—¼-in. $40.00
Type/M- 1—⅜-in. 48.00
Type/M- 2—½-in. 55.00
Type/M-2U Special ⅝-in. 77.00
Write for discounts.

P. Wall Manufacturing Supply Co.

Manufacturers of Dreadnaught Furnaces and Blow Torches

3126-3166 Preble Avenue, N. S.

PITTSBURGH, PA.

Exclusive "Dreadnaught" Features

Pump housing is drop-forged steel, brazed to tank. Filler plug and supply pipe connections are machine cut bushings, flanged on inside, brazed to tank. Patented burner on furnaces will operate efficiently in zero weather. Seamless drawn brass pump shells have patented check valves. Furnace supply valves are brass drop-forgings. Furnace and blow torch tanks are tested under 100 lb. pressure.

In addition, "Dreadnaught" Blow Torches have restful angle handles brazed to tanks. Pumps are located so that burning of the operator is impossible. Pressed steel drip cups are brazed to supply pipes so they will not leak or work loose.

"Dreadnaught" torches will operate efficiently in any inverted position and at any angle. They will not go out in an ordinary wind.

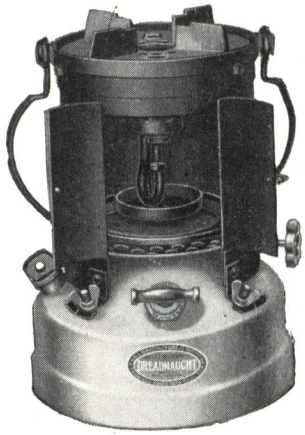
Every "Dreadnaught" is *service-tested* by experienced men before leaving the factory and is warranted to give entire satisfaction and guaranteed against defects in materials and workmanship.

Our Service Repair Department

In order that "Dreadnaught" Furnaces and Blow Torches may render maximum service for every dollar invested, we maintain at the plant a fully equipped repair department to meet your prompt needs. Furnaces and blow torches reconditioned will give added years of service.

Wall "Dreadnaught" Furnaces

"Big Brute Dreadnaught" Furnace No. 50—Meets the needs of cable splicers and is constructed to withstand rough usage. From top plate to tank it is a radical departure from the ordinary furnace, yet every part is typically "Wall" in quality of material and workmanship, and will be found highly dependable, economical, faster in operation and absolutely safe. Melts 7½ lb. of Paraffin in 7 minutes.



Burns either gasoline or kerosene. Tank finished in red enamel. Flue is formed from heavy gauge steel and has two hinged doors in front so as to allow easy access to burner. Rear of flue is equipped with hinge and can be tipped backward. When in vertical position flue is held to tank by flue catches and wing nuts. Drip cup, saucer and heat dissipator held in place by sleeve threaded on brass drop-forged supply valve.

Top plate made of malleable iron. Large wire bail facilitates easy handling.

Packed one in a carton and furnished with cleaning needle, extra filler plug washer and burner blocks.

When ordering, specify fuel to be used.

Tank cap., gal.	Dimensions, in.				Ship. wt. ea., lb.	List price, each
	Height without Hood	Hood		Max. tank diam.		
		Diam.	Height			
1	15″	7⅝″	5½″	10½	27	$55.00

"Dreadnaught" Furnace No. 53—Especially designed for electrical purposes and extensively used by the construction department of public service companies in conjunction with cable splicing work.

Hood and top plate are extra large so as to accommodate solder pots and compound kettles.

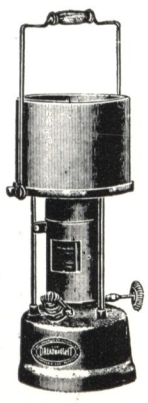
Melts 40 pounds of solder in 10 minutes.

Burns either gasoline or kerosene by simply changing burner block.

Packed one in a fibre carton and furnished with cleaning needle, extra filler plug washer and burner block.

When ordering, specify fuel to be used.

Tapered hood can be furnished by adding 50c. to list price, when specified.

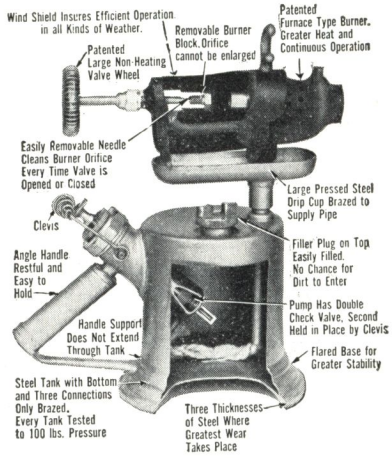


Cat. No.	Tank cap., gal.	Dimensions, in.				Ship. wt. ea., lb.	List price, each
		Height without Hood	Hood		Max. tank diam.		
			Diam.	Height			
53	¾	14½″	7⅝″	5½″	8″	16½	$35.00

Wall "Dreadnaught" Blow Torches

"Dreadnaught" Blow Torches Nos. 41 and 42—Represents the very latest development in "Dreadnaught" blow torch design. Especially adapted for use in strong winds and are economical in operation and upkeep. They produce a much broader and hotter flame than the No. 31.

Made in two styles—One for gasoline and one for kerosene. Tanks are tested to 100-lb. pressure. Equipped with windshield, removable burner block, non-enlarging burner orifice and have automatic needle valves with patented non-heating handles. Pump plungers have spring wire clevises to hold them in place. Packed one in a carton, 12 cartons in a case.



Cat. No.	Description	Tank cap., qt.	Shipping wt. per doz., lb.	List price	
				Each	Dozen
41	For gasoline	1	62	$7.00	$84.00
42	For kerosene	1	62	8.00	96.00



"Dreadnaught" Blow Torches Nos. 31 and 38—Dependable general utility torches which meet every requirement of usual torch service. Lighter in weight than the No. 41 torch and very satisfactory for indoor or outdoor work.

Burns gasoline only. Equipped with removable soldering copper bracket. Packed one in a carton, 12 cartons in a case.

Cat. No.	Tank capacity	Shipping wt. per doz., lb.	List price	
			Each	Dozen
31	1 qt.	55	$5.00	$60.00
38	1 pt.	50	5.00	60.00



Galvanized Steel Pipe Straps

The following sizes are made from regular stock: **¼ in., BX, ⅜ in., ½ in., 1 in., 1¼ in., 1½ in., 2 in., 2½ in., 3 in., 3½ in., and 4 in.**

They are put up in 100 lb. bags. 5 lb. paper boxes are available at slightly extra cost.

The Viking Tool and Machine Co., Inc.

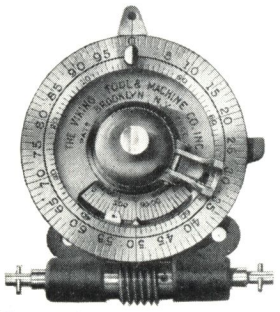
Designers and Builders of Automatic Coil Winding Machines and Stop Counters

751 Sixty-fifth St., Brooklyn, N. Y.

In addition to the standard machines shown in this catalog, we produce a large variety of special winding machines designed to meet universal requirements. As specialists with wide experience we are in a position to help manufacturers solve their coil-winding and stop-control problems. We offer this service with the assurance gained through years of leadership in the development of automatic coil-winding equipment.

Viking Automatic Stop Counter No. 108-1-B-C

A compact, durable and self-contained device that is an important element of all Viking winding and measuring machines described below. It accurately counts shaft revolutions and will control the stopping of a machine at any predetermined number of revolutions, from zero to 9500, for which the dial is manually set. Higher ranges can readily be arranged by substitution of gears. The maximum speed is over 2000 r.p.m. The Counter is also adaptable to making lineal measurements in feet, yards, etc.



Counter No. 108-1-B-C is offered in two models—mechanical and electrical. In the mechanical type, after the counter is set to the desired number of revolutions, a latch is lifted and its upper end slipped over the button in center of dial. When the predetermined number of turns has been made, the latch slips off the button, stopping the machine. Depressing a lever stops operations at any desired point.

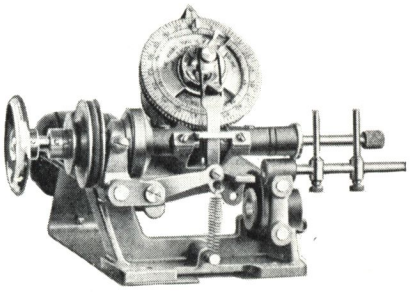
The electrical type is equipped with a 250-volt, 20-amp built-in make-and-break switch for controlling any electrically operated machines. It may be used as a remote control of a wide range of electrical devices.

Dimensions: height, 5¾ in., length, 5 in., width, 5½ in., weight, 6 lb. 9 oz.

Viking Spool Winding Machine No. 115

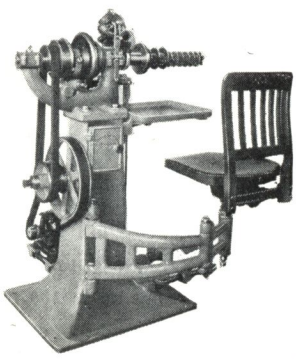
Coils of wire for transformers, couplings and similar parts used in the construction of radio and other electrical apparatus can be wound to a diameter of 4 in. on this machine. It handles wire from No. 17 to No. 35 B. & S. Gauge.

No. 115 Winder is equipped with our No. 108 Stop Counter, which automatically stops winding at any predetermined number of revolutions from zero to 9500. A clutch of special design permits starting and stopping at any point. Provision is made for the usual foot-pedal control, and a mechanism may be attached for feeding the wire on the form at any desired helical angle.



A remarkably compact machine: height, 9 in., length, 14 in., width, 7 in., weight, 16 lb.

Viking Coil Winding Machine No. 116



Designed to wind coils up to 10-in. diameter and 10 in. long, handling wire from No. 11 to No. 35 B. & S. Gauge.

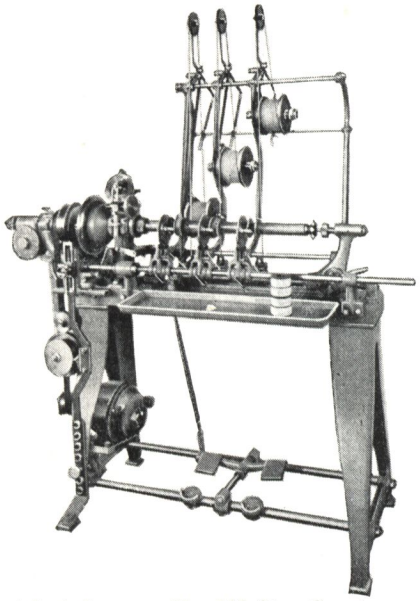
No. 116 is equipped with our No. 108 Stop Counter and a special clutch arrangement by means of which the motor is left running while the winding spindle is automatically stopped at any predetermined number of revolutions up to 9500. This automatic spindle control—exclusively a Viking feature—produces the correct number of turns, eliminating the waste of over or under-wound coils.

In No. 116 we have emphasized strong construction, simple operation and ease of changing set-ups.

Dimensions: height, 46 in., length, 36 in., weight, 415 lb., including arbor and ⅓-hp., 1200-r.p.m. motor. The swinging support arm for the chair permits a wide range of angles and distances from the work.

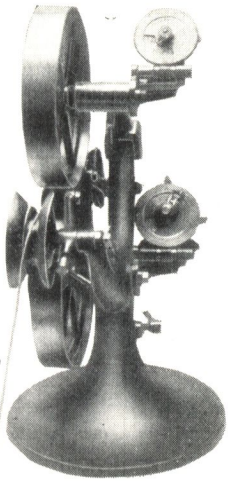
Viking Multiple Coil and Spool Winding Machine No. 109-B

Equipped with a spool frame arranged to wind three or more coils of the same size, up to 7-in. diameter and 7-in. long. An automatic wire layer takes wires from No. 18 to No. 34 B. & S. gauge, and ranges from ½ to 7 in. between spool flanges.



Equipment includes: our No. 108 Stop Counter; one 1/3-hp., 1200-r.p.m. motor; one arbor, two sets of gears and two cams. Dimensions: height, 60 in., length, 56 in., width, 28 in., weight, 500 lb. approx.

Viking Wire Measuring Machine No. 103-A



Designed to measure up to 9500 feet or yards of wire, cable, rope, cord, cloth, etc. The standard machine measures flexible wire or cord up to ⅝-in. diameter; heavier machines, for ropes and cables up to 3 in., available on special order.

No. 103-A is furnished with one or two plain counters, one No. 108 automatic Electric Type Stop Counter with one plain counter, or one No. 108 Counter alone. The No. 108 Counter, when used, signals the measurement of predetermined lengths by operating a bell or signal light. Where two counters are used, *one serves as a check upon the other.* Counting wheels run in ball bearings. There are no eyes through which to feed the wires.

No. 103-A Bench Type—Height of material drive from bench, adjustable from 15½ to 19½ in.; length, 19½ in.; width, 14 in.; weight, 95 lb.

No. 103-A Floor Type—Height of material drive from floor, adjustable from 40½ to 50½ in.; length, 19½ in.; width, 14 in.; weight, 135 lb.

The Bead Chain Manufacturing Co.

1930 Mountain Grove St., Bridgeport, Conn.

Sales Representatives in the Electrical Industry
ALBERT LORSCH & CO., INC.
607 Fifth Ave., NEW YORK, N. Y.

Bead Chain

Bead Chain is an all-metallic chain made of hollow beads or balls connected by formed dumbbells. It is neat in appearance, flexible, non-kinkable, durable, and is exceptionally strong.

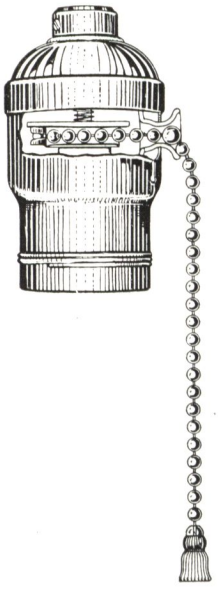
BEAD CHAIN

Trade Mark Reg. U. S. Pat. Off.

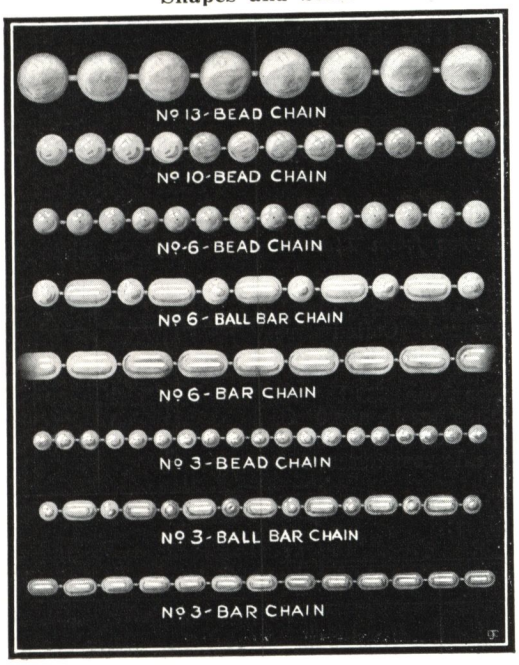
Uses—Bead Chain is standard for electrical pull sockets. Fixture manufacturers use Bead Chain for ornamental purposes with various fixture designs in the form of loops, drapings, pendants, tassels, etc., all of which add to the appearance and individuality of the fixture. The larger sizes of Bead Chain in many cases are being used for fixture suspension, combining strength with ornamental design.

Sizes, Finishes and Shapes—Bead Chain is regularly made in four standard sizes of beads and furnished in Brush Brass, Clean Brass, Polished Brass, Nickel Silver or Chromium Plate. Colored lacquer finishes may be obtained.

Standard Bead Chain is furnished with spherical beads but on special orders chains with elliptical beads, bars, alternating beads and bars, or other combinations, may be supplied where the quantity ordered is sufficient, or cut to specified length or assembled with attachments.



Shapes and Sizes

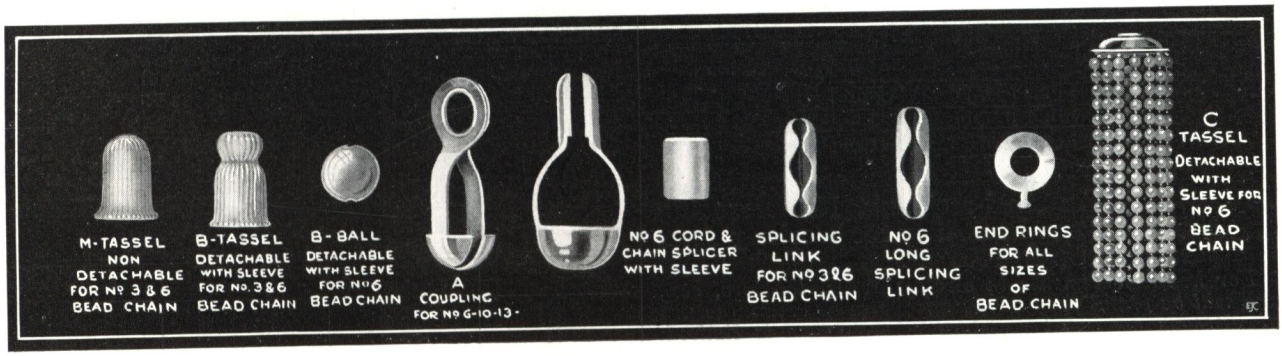




Bead Chain Attachments

For attaching Bead Chains to other devices, couplings, end rings and splicing links, as shown, are used.

Pendants, balls and tassels are also used for end attachment.



BEAD CHAIN SPECIFICATIONS

Size No.	Used for	Diam. of bead, in.	Tensile strength, lb.	Ft. in std. reel
3	Electrolier and candle sockets	.093	20-25	1,000
6	Medium base sockets	.125	30-35	1,000
10	Suspending fixtures, also for heavy-duty service	.187	45-50	500
13	Suspending fixtures, also for heavy-duty service	.250	120-130	250

GILBY WIRE COMPANY

Manufacturers of Resistance Alloys and Pure Metals

Riverside Ave., Newark, N. J.

Branch: CHICAGO, ILL,. 217 No. Desplaines St.

Sales Agents

BOSTON, MASS.....Frank Booth Co., 11 Beacon St.
*SEATTLE, WASH....Martin Woodard Co., Terminal Bldg.
*SAN FRANCISCO, CALIF..Martin Woodard Co., 625 Third St.
*SPOKANE, WASH..Martin Woodard Co., 110 South Cedar St.
*TORONTO, ONT.....Dowe & Rowan, 208 King St., West
*Indicates stocks carried

GILBY RESISTANCE ALLOYS AND PURE METALS

Gilby resistance alloys and pure metals are manufactured in various forms to meet the requirements of electrical apparatus and appliance manufacturers.

Gilby products are largely created to conform with specifications determined by industries which they serve. They are made from the finest grades of materials and embody precision, uniformity and highest efficiency.

Our staff of competent engineers are at your disposal to assist you in selecting the materials best suited for your particular needs. Your inquiries are invited.

Tophet "A"—An Iron-free, Non-magnetic, Nickel-chromium Alloy Containing 20% Chromium

Used for heating elements in electric furnaces, ranges and similar devices in which the elements are exposed to atmosphere and operate at temperatures from 1400 to 2100° F.

Specific gravity, 8.42. Weight, .304 lb. cu.in. Furnished in two forms—round and flat. Standard finish bright; oxidized finish supplied if required. Coiled wire for elements also supplied according to manufacturer's specifications.

Round Wire—Bare or covered in sizes from .289 to .001 in. in diameter. Corresponding resistance per ft. at 20° C. ranges from .0077 to 650 ohms; ft. per lb., 4.17 to 349,000; lb. per 1000 ft., 239 to .002. Specific resistance, 650 ohms per cir.mil ft. at 20° C.

Flat Ribbon—Specific resistance, 510 ohms per sq. mil ft. at 20° C. Made in the following sizes:

Width, in.	Thickness, B. & S. gauge	Resistance, ohms per ft. at 20° C.	Ft. per lb.
1/32	30–40	1.736 –5.600	932.0–3008.0
1/16	24–40	.434 –3.171	233.0–1703.0
1/8	18–40	.108 –1.585	58.2– 851.0
3/16	14–40	.0452–1.057	24.2– 567.9
1/4	10–40	.0212– .658	11.4– 353.5
3/8	10–40	.0133– .439	7.1– 235.6
1/2	10–40	.0100– .329	5.3– 176.7
5/8	10–40	.0080– .263	4.2– 141.4
3/4	10–40	.0066– .219	3.5– 117.8
1	10–40	.0050– .164	2.6– 88.3

***FACTORS FOR DETERMINING RESISTANCE OF TOPHET "A" WIRE AND RIBBON AT VARIOUS WORKING TEMPERATURES**

Temp., deg. C...	20	100	200	300	400	500	600	700	800	900	1000
Resis., ohms....	1.00	1.009	1.030	1.045	1.057	1.065	1.066	1.062	1.059	1.062	1.065

*Figures vary slightly with various sizes, due to rate of cooling.

Tophet "C"—An Acid-resisting, Non-corroding Nickel-chrome Iron Alloy for Working Temperatures Up to 1600° F.

For heating elements in electric ovens, toasters, etc., and will be found very advantageous in the manufacture of vitreous enameled resistors where space is limited, strength in fine sizes required and minimum resistance variation is desired, due to firing operations.

Specific gravity, 8.20. Weight, .297 lb. per cu.in. Supplied in round or flat form, with bright or oxidized finish. Coiled wire for elements supplied according to manufacturer's specifications. Also made in woven mesh form from any size wire and with any size openings.

Round Wire—Bare or covered in sizes from .289 to .001 in. in diameter. Corresponding resistance per ft. at 20° C. ranges from .0081 to 675 ohms; ft. per lb., 4.28 to 358,000; lb. per 1000 ft., 233 to .002. Specific resistance, 675 ohms per cir.mil ft. at 20° C.

Flat Ribbon—Specific resistance, 530 ohms per sq. mil ft. at 20° C. Made in the following sizes:

Width, in.	Thickness, B. & S. gauge	Resistance, ohms per ft. at 20° C.	Ft. per lb.
1/32	30–40	1.800 –5.82	960.0–3096.0
1/16	24–40	.451 –3.29	240.0–1677.0
1/8	18–40	.112 –1.65	60.0– 876.7
3/16	14–40	.0469–1.098	25.0– 584.5
1/4	10–40	.0221– .684	11.7– 361.2
3/8	10–40	.0138– .456	7.3– 242.5
1/2	10–40	.0104– .342	5.5– 181.9
5/8	10–40	.0083– .274	4.4– 145.5
3/4	10–40	.0069– .228	3.6– 121.2
1	10–40	.0052– .171	2.7– 90.9

***FACTORS FOR DETERMINING RESISTANCE OF TOPHET "C" WIRE AND RIBBON AT VARIOUS WORKING TEMPERATURES**

Temp., deg. C...	20	100	200	300	400	500	600	700	800	900	1000
Resis., ohms....	1.00	1.007	1.019	1.032	1.047	1.054	1.055	1.058	1.063	1.070	1.080

*Figures vary slightly with various sizes, due to rate of cooling.

Cromin "D"—A Chrome Bearing Alloy

Used for resistors in motor starters, room and car heaters and other apparatus where the element does not operate continuously at a red heat.

Cheaper than Tophet "A" and "C" and therefore will be found advantageous where first cost is a deciding factor.

Specific gravity, 7.965. Weight, .288 lb. per cu.in. Made in round and flat form, with bright finish.

Round Wire—Bare or covered, in sizes from Nos. 1 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .0068 to 59.313 ohms; ft. per lb., 4.4 to 38,366; lb. per 1000 ft., 227 to .026. Specific resistance, 570 ohms per cir.mil ft. at 20° C.

Flat Ribbon—Specific resistance, 488 ohms per sq.mil ft. at 20° C. Made in the following range of sizes:

Width, in.	Thickness B. & S. gauge	Resistance, ohms per ft. at 20° C.	Ft. per lb.
1/32	30–40	1.525 –4.919	989 –3184
1/16	24–40	.381 –2.785	246 –1803
1/8	18–40	.095 –1.392	61.7– 901
3/16	14–40	.0397– .928	25.7– 601
1/4	10–40	.0186– .578	12.0– 374
3/8	10–40	.0117– .385	7.5– 249
1/2	10–40	.0088– .289	5.6– 187
5/8	10–40	.0070– .231	4.5– 149
3/4	10–40	.0058– .192	3.7– 124
1	10–40	.0043– .144	2.8– 93.5

Note: For resistance factors for determining various working temperatures see top of following page.

***FACTORS FOR DETERMINING RESISTANCE OF CROMIN "D" WIRE AND RIBBON AT VARIOUS WORKING TEMPERATURES**

Temp., deg. C.	20	100	200	300	400	500	600	700	800
Resis., ohms	1.00	1.035	1.082	1.130	1.172	1.210	1.240	1.265	1.285

*Figures vary slightly with various sizes due to rate of cooling.

Cupron—A Cupro-nickel Alloy

Used for resistances in rheostats, voltmeters and similar devices where the units do not operate at a red heat. Also used for shunts and as the negative leg of thermo couples.

A very reliable material of moderate specific resistance with practically nil temperature coefficient and high thermo-electric effort against copper.

Cupron has a specific gravity of 8.9 and weighs .322 lb. per cu.in. Regularly furnished in round or flat form.

When required, Cupron can also be furnished in sheets of any desired gauge. Standard finish, bright.

Round Wire—Bare or covered and in sizes ranging from Nos. 1 to 46 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .0035 to 130.66 ohms; ft. per lb., 3.95 to 146,666; lb. per 1000 ft., 253 to .066. Specific resistance, 294 ohms per cir.mil ft. at 20° C.

Flat Ribbon—Specific resistance, 231 ohms per sq. mil ft. at 20° C. Made in the following sizes:

Width, in.	Thickness, B. & S. gauge	Resistance, ohms per ft. at 20° C.	Ft. per lb.
1/32	20–40	.246 –2.536	276 –2852
1/16	20–40	.122 –1.436	139 –1615
1/8	20–40	.0614– .7182	69.0– 807.0
3/16	20–40	.0409– .478	46.0– 538.0
1/4	20–40	.0307– .3080	34.5– 335.0
3/8	20–40	.0192– .2050	21.6– 223.0
1/2	14–31	.0072– .0462	8.1– 58.3
5/8	14–31	.0057– .0415	6.4– 46.7
3/4	14–27	.0048– .0218	5.4– 24.3
1	14–27	.0036– .0163	4.0– 18.2

Manganin—A Copper-nickel Manganese Alloy

Used for instrument shunts, wheatstone bridges and all kinds of precision instruments.

Has a very low temperature coefficient and low thermal electromotive force against copper.

Specific gravity, 8.39. Weight, .303 lb. per cu.in. Regularly furnished in round wire form. When required, sheets of any gauge thickness can be supplied.

Round Wire—Bare or covered, in sizes from Nos. 15 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .089 to 32.220 ohms; ft. per lb., 107 to 36,430; lb. per 1000 ft., 9.43 to .027. Specific resistance, 290 ohms per cir.mil ft. at 20° C.

Copper-nickel Alloys

Used extensively for coils in rheostats and voltage control relays where high current-carrying capacity is required with necessary resistance, also where ordinary copper is found too cumbersome and bulky.

Made in four various styles and regularly supplied in wire form, either bare or covered. When required, alloys can be furnished in ribbon and sheet form of any gauge thickness.

No. 30 Alloy (Round Wire)—Made in sizes from Nos. 1 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .000359 to 3.12 ohms; ft. per lb., 3.93 to 34,224; lb. per 1000 ft., 254 to .029. Specific gravity, 8.92. Specific resistance, 30 ohms per cir.mil ft. at 20° C.

No. 60 Alloy (Round Wire)—Made in sizes from Nos. 1 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .000718 to 6.24 ohms; ft. per lb., 3.95 to 34,339; lb. per 1000 ft., 253 to .029. Specific gravity, 8.9. Specific resistance, 60 ohms per cir.mil ft. at 20° C.

No. 90 Alloy (Round Wire)—Made in sizes from Nos. 1 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .00107 to 9.36 ohms; ft. per lb., 3.92 to 34,110; lb. per 1000 ft., 255 to .029. Specific gravity, 8.98. Specific resistance, 90 ohms per cir.mil ft. at 20° C.

No. 180 Alloy (Round Wire)—Made in sizes from Nos. 1 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .0021 to 18.730 ohms; ft. per lb., 3.92 to 34,110; lb. per 1000 ft., 255 to .029. Specific gravity, 8.95. Specific resistance, 180 ohms per cir.mil ft. at 20° C.

***FACTORS FOR DETERMINING RESISTANCE OF NICKEL-COPPER ALLOYS AT VARIOUS WORKING TEMPERATURES**

Temp., deg. C.	20	100	150	200	250	300	350	400	450
	Resistance in Ohms								
30 Alloy	1.00	1.105	1.200	1.275	1.350	1.407	1.502	1.590	1.670
60 Alloy	1.00	1.065	1.132	1.175	1.235	1.290	1.340	1.390	1.445
90 Alloy	1.00	1.030	1.050	1.070	1.090	1.110	1.130	1.150	1.170
180 Alloy	1.00	1.010	1.018	1.025	1.032	1.040	1.047	1.057	1.060

*Figures will vary slightly with various sizes, due to rate of cooling.

Gilby Ballast Wire—A Non-corroding Voltage Regulating Metal

Has the highest temperature coefficient of any similar material. It performs at its highest efficiency in air and it is unique in that it functions most effectively at low operating temperatures.

An outstanding feature of this wire is the fact that a regulation of at least 80% can be obtained with good design.

Made in sizes from Nos. 15 to 40 B. & S. gauge. Corresponding resistance per ft. at 20° C. ranges from .0106 to 5.41 ohms; ft. per lb., 101 to 34,447; lb. per 1000 ft., 9.90 to .029. Specific gravity, 8.87. Specific resistance, 52 ohms per cir.mil ft. at 20° C.

***FACTORS FOR DETERMINING RESISTANCE OF GILBY BALLAST WIRE AT VARIOUS TEMPERATURES**

Temp., deg. C.	20	100	200	300	400	500	600	700
Resis., ohms	1.00	1.40	2.00	2.70	3.40	4.00	4.50	4.90

*Figures vary slightly with various sizes due to rate of cooling.

Pure Nickel (Round Wire)

Made in sizes from .289 to .0015 in. in diameter. Corresponding resistance per ft. at 20° C. ranges from .000694 to 25.80 ohms; ft. per lb., 3.95 to 146,666; lb. per 1000 ft., 253 to .006. Specific gravity, 8.9. Specific resistance, 58 ohms per cir.mil ft. at 20° C.

Pure Nickel Seamless Tubing

This product is manufactured under a highly specialized process which allows the original metal to retain all of its initial high qualities in the process of conversion. All tubing is free from surface defects, and wall thickness throughout is absolutely uniform. Made with outside diameter as small as .065 in. and wall thickness of .0015 in. When required, we can supply tubing of special sizes and alloys to meet customer's requirements.

Enameled and Covered Wires

We are equipped to furnish on short notice any of our resistance alloy wires covered with the following: enamel, single or double silk, single or double cotton, wound or braided asbestos.

Inquiries should specify exact requirements, and where possible samples should be furnished.

Other Gilby Products

Heater Pad Cord—Has an asbestos core over which is wound resistance wire.

Made with resistances from 20 to 15,000 ohms per ft.

Leads for Electric Stoves—Made of nickel wire over which is placed an asbestos braid.

Heating Element Coils—We are equipped to coil our various resistance wires in windings for resistance elements.

When ordering specify watts, voltage and outside diameter desired.

DRIVER-HARRIS COMPANY

Resistance Alloys: Wire—Ribbon—Strip—Sheet

HARRISON, N. J. MORRISTOWN, N. J.

Branch Offices

CHICAGO, ILL., 1138-1140 West Washington Blvd.
CLEVELAND, OHIO, Euclid Ave.
DETROIT, MICH., General Motors Building
MANCHESTER, ENGLAND, British Driver-Harris Co.
NEUILLY SUR-SEINE, FRANCE, Etablissements Driver-Harris
MILAN, ITALY, Societa Anonima Italiana Driver-Harris

Nichrome IV

High Temperature Service

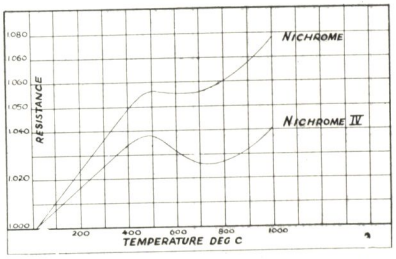
"Nichrome" IV is a straight nickel-chromium alloy, technically free from iron, and will effectively resist oxidation at temperatures up to 1150° C.

This material is, therefore, very suitable for electric stove elements and for radiant heating elements operating above the normal temperature range, being developed especially for industrial furnace work and for applications where heating elements are subjected to extremely severe operating conditions.

Nichrome

TRADE MARK REG. U.S. PAT. OFF.

"Nichrome" is the name of the original D-H nickel-chromium resistance alloy. This alloy is practically non-corrosive and resists oxidation. Its field is in electric heating devices up to 1000° C., or where the resistance element must of necessity be confined in a small space, and for other applications where high resistance is desired. Because of its high resistance it is being used extensively for radio rheostats. "Nichrome" has a high specific resistance and also a high temperature coefficient and is recognized as the standard resistance material for cord-attached household appliances.

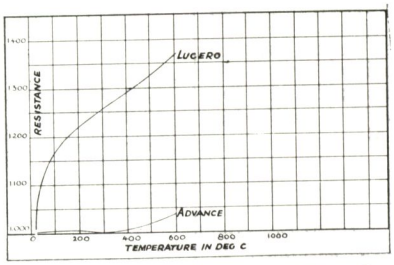


Temperature-Resistance Chart of "Nichrome IV" and "Nichrome"

Advance

TRADE MARK REG. U.S. PAT. OFF.

The outstanding feature of "Advance" wire is the fact that its resistance variation with changing temperature is practically nil. "Advance" finds wide use for low-temperature resistances, accurate rheostats, filament control rheostats, automatic machines, various types of electric measuring instruments, motor starting boxes, street car heaters and special forms of water heaters.



Temperature-Resistance Chart of "Advance" and "Lucero"

Lucero

TRADE MARK REG. U.S. PAT. OFF.

"Lucero" is a natural alloy consisting of approximately 67% nickel, 28% copper and 5% of other metals, chiefly iron, manganese and silicon; used in many mechanical applications and employed as an electrical resistance material for temperatures below 500° C. This alloy has a high temperature coefficient, practically non-corrosive and used extensively for rheostats, car heaters, etc.

No. 95 Alloy

No. 95 Alloy is a copper-nickel alloy developed by the Driver-Harris Company particularly for use on radio rheostats where high carrying capacity combined with fairly low resistance is essential.

Comet (193 Alloy)

TRADE MARK REG. U.S. PAT. OFF.

"Comet" is a nickel-chromium-iron alloy whose chromium content renders it resistant to oxidation in devices operating from low to medium temperatures. It is an inexpensive material and, due to low cost and high resistance (550 ohms per circular mil foot at 20° C.), is used extensively in elevator and crane controllers and in heavy-duty rheostats.

Pure Nickel

D-H Grade "A" Pure Nickel analyzes to a uniform purity of over 99%. It is rustless and has a low resistance, and a very high temperature coefficient of resistance. It is used principally in radio tubes, resistance thermometers, thermo-couples, and for various mechanical purposes. As an anchor wire for incandescent lamps, Pure Nickel is both economical and dependable. Also furnished in the form of rod, ribbon, strip and sheet.

Additional D-H Alloys

"Magno" — A manganese-nickel alloy used in the manufacture of incandescent lamps and radio tubes.

"Manganin"—An alloy of copper, manganese and nickel, principally used in the form of sheet for electrical instrument shunts and wire for precision multipliers and standard coils. The thermal electromotive force against copper being negligible, Manganin wire is ideal for Wheatstone bridges.

"141 Alloy"—A 70% nickel 30% iron alloy with a temperature coefficient of .004 per deg. C. between 20° and 100° C., and a specific resistance of 120 ohms per circular mil-foot (annealed).

Special Alloy wire for spark plugs.

"Invar"—(36% Nickel Steel)—An alloy with an extremely low coefficient of expansion up to 200° C. One of the applications is in bimetallic thermostat elements.

An alloy can be produced at D-H to meet any type of service whatever, that may be encountered in your production.

Heater Cord

Driver-Harris has worked with the appliance manufacturers in developing this cord. It is furnished with an asbestos cover of either yarn or roving according to specifications. Any color or combination of colors of the outer braid can be furnished.

Other Products

In addition the Driver-Harris Company manufactures cast "Nichrome" carburizing containers for resisting high temperatures, Chromax, for resisting medium temperatures, "Nichrome" Welding Rod and "Nichrome" B, an addition to cast iron.

"Nichrome"—"Nichrome" IV—"Advance"—"Magno"—"Lucero"—"Comet"—"Climax"—Are Trademarks Applying to Alloys Made Only by Driver-Harris Company and Are Registered in the Patent Offices of the United States and Foreign Countries.

ACKERMAN-JOHNSON CO.

Manufacturers of Expansive Screw Anchors, Expansion Bolts and Concrete Inserts

625 West Jackson Boulevard, Chicago, Ill.

53 Park Place, New York City

Dealers in All Principal Cities

Products

Ackerman-Johnson Expansive Screw Anchor; Expansion Bolts; Concrete Inserts. U. S. Patents: April 27, 1915, December 21, 1915, April 4, 1916, May 14, 1918; others pending. Patented in Canada, Great Britain, France, Belgium; others pending.

Ackerman-Johnson Expansive Screw Anchor

Adaptability—For attaching objects to hard materials, as concrete, brick, stone, tile, marble, etc.

Description and Operation—Consists of a doubly tapered internally threaded cone made of brass, iron or steel (Fig. 1), within a lead composition ductile sleeve (Fig. 2). These are assembled at the factory, the sleeve being forced on the cone to a normal position as at Fig. 3.

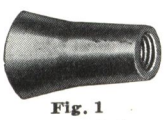


Fig. 1



Fig. 2



Fig. 3

Ackerman-Johnson Expansive Screw Anchor

When installed as illustrated, the sleeve is driven farther toward base of the cone and is expanded generally to any degree required to swedge tightly against the sides of hole, effecting perfect holding contact throughout the length and circumference of the anchor. Thus consolidated with the wall material, the anchor provides a machine threaded hole the same as an ordinary tapped hole in a machine part. Any object may then be attached with a standard screw or bolt of suitable diameter.

The heavier the load attached, the more forcible becomes the expansion, causing the anchor to resist effort to pull it out far beyond the tensile strength of any screw or bolt.

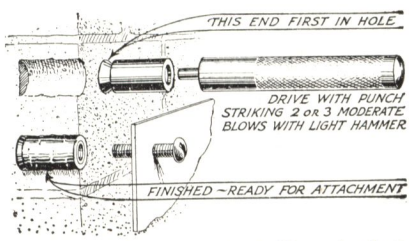


Fig. 4. Manner of Installing Anchor
The piloted setting punch supplied without charge with all anchors.

Distinctive Advantages—Time saving through the use of Ackerman-Johnson anchors compared with old methods more than compensates their total cost.

They save much of drilling cost, requiring least depth for any stated load. They are installed instantly, without the aid of the screw, and before the fixture is lifted into position to be fastened. Their margin of safety is equal to that of steel bolts of correlating size.

They necessitate the least displacement of wall material and consequently less injury to buildings. They effect the neatest possible workmanship.

Sizes—The size of anchor is designated as the size of the bolt or screw to be used. Example: For No. 10-24 screw, use No. 10-24 anchor; for ⅜-in. bolts use ⅜-in. anchor.

SIZES, EXPANSIVE SCREW ANCHORS

Screw or bolt size.	Threads per in.	Minimum dimension of holes required, in.		Specify anchor Size No.
		Diam.	Depth	
# 6	32	¼	⅜	6-32
# 8	32	5/16	½	8-32
# 10	24	⅜	⅝	10-24
# 12	24	7/16	¾	12-24
¼ "	20	½	⅞	¼-20
5/16"	18	⅝	1	5/16-18
⅜ "	16	¾	1¼	⅜-16
7/16"	14	⅞	1½	7/16-14
½ "	13	⅞	1½	½-13
⅝ "	11	1⅛	2	⅝-11

Packed 50 or 100 in box.

Stud Type Expansion Bolts

So great is the holding power of this anchorage, that when set in strong stone or concrete with only its one primary sleeve expanded, the bolt shank can be pulled in two, without the anchorage yielding.



Bolt with Primary Expansive Sleeve Only

Secondary Expansive Units—Made up of an expansive sleeve and a slip steel cone, giving additional anchorage equal to the primary unit. Calculate the minimum depth of holes for setting at twice the diameter of hole drilled.



Bolt with Primary and One Secondary Expansive Unit



Sectional View Showing Bolt with Primary Expansion Sleeve, One Iron Spacing Sleeve, and One Secondary Expansive Unit

Fig. 5. Stud Type Expansion Bolt

Concrete Inserts

Ackerman-Johnson concrete inserts for moulding into the concrete when poured, afford minimum displacement of the concrete and maximum speed in setting. Can be furnished for all sizes of screws and bolts up to ⅝-in. diameter.

Diam. of bolt, at thread.....in.	¼	⅜	½	⅝	¾
Diam. for hole.....in.	⅜	9/16	¾	1	1⅛
Length of bolt.. in.	1¼	1¾	2½	3½	5
	1½	2	3	4	6
	1¾	2½	3½	5	7½
	2	3	4	6	9
	2½	3½	4½	7½	10
	3	4	5	9	12
	3½	4½	6	10½	15
	4	.....	7	12	18
	.....	.....	8	15	.....

We invite requests for full information concerning inserts.

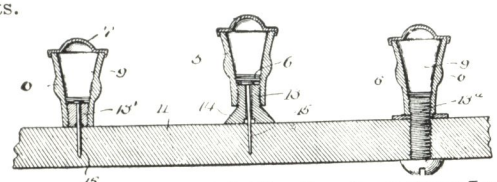


Fig. 6. Three Methods of Setting Inserts on Form Lumber

Users of Ackerman-Johnson Products

Extensively adopted by leading contractors, manufacturers, railroads, shipyards, government departments and public utility companies.

Massachusetts Machine Shop, Inc.

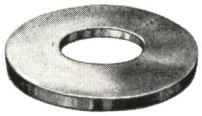
Manufacturers of Washers and Flat Stampings

817 Albany Street
BOSTON, MASS.

Products

We specialize in the manufacture of stamped washers in all shapes and sizes, flat or formed, made from brass, steel, copper, bronze, fibre, aluminum, duralumin, lead, monel and other metals. We are also equipped to manufacture small and medium size flat stampings in all metals in quantity production. Among the washers we manufacture and carry in stock ready for immediate delivery are those listed below.

Brass Washers



Standard sizes to fit all machine screws from No. 3 to No. 34 and bolts from ⅛ in. to 1 in.

These washers are flat, accurate and free from burrs.

Supplied in bulk or in labelled boxes of 1 lb. (or more) if specified.

Machine screw, size No.	Bolt size, in.	Outside diam., in.	Inside diam., in.	Thickness, in.	Approx. No. per lb.
3	.....	¼	.101	.020	4000
4	.....	9/32	.120	.025	2550
6	⅛	⅜	.147	.032	1100
8	.....	⅜	.172	.032	1170
8	5/32	7/16	.172	.036	710
10	.....	7/16	.193	.036	760
10	3/16	½	.193	.040	480
12	.....	½	.228	.040	520
12	7/32	9/16	.228	.040	390
14	.....	9/16	.260	.040	415
14	¼	1 1/16	.260	.051	205
16	.....	⅝	.282	.040	335
16	.....	¾	.282	.062	135
18	9/32	1 1/16	5/16	.051	220
18	.....	⅞	5/16	.062	100
20	.....	¾	1 1/32	.062	146
20	5/16	⅞	1 1/32	.062	102
24	.....	⅞	25/64	.062	108
24	⅜	1	25/64	.081	60.5
30	7/16	1⅛	½	.081	50.5
34	½	1¼	9/16	.091	36.5
.....	⅝	1½	1 1/16	.102	22.7
.....	¾	1⅞	1 3/16	.114	12.7
.....	⅞	2¼	1 5/16	.128	7.6
.....	1	2½	1 1/16	.144	5.5

Bevelled Steel Washers



These washers, made from the best grade cold rolled steel, are finished with a neat bevelled edge, come flat with holes concentric, and are ball burnished to a bright smooth finish.

We also stock these washers in a plain square edge.

Bolt size, in.	Outside diam., in.	Inside diam., in.	Thickness, in.	Approx. No. per lb.
⅛	7/16	9/64	3/64	526
3/16	½	13/64	1/16	345
¼	9/16	9/32	1/16	305
5/16	¾	1 1/32	1/16	161
⅜	⅞	1 3/32	1/16	120
7/16	⅞	1 5/32	5/64	105
½	1 1/16	1 7/32	5/64	68.3
9/16	1¼	1 9/32	3/32	39.7
⅝	1⅜	2 1/32	3/32	32.7
¾	1½	2 5/32	3/32	29.2
⅞	1¾	2 9/32	⅛	15.8
1	2	1 1/32	⅛	12.2

Hollow Countersunk Washers

Carried in stock in brass and steel but can be furnished in aluminum, copper and other metals.

Can be furnished in nickel plate, brass plate, copper plate or other finish.

We also make a solid countersunk washer similar to above except made from solid brass.



Screw Size	Outside diam., in.	Inside diam., in.	Gauge of Stock	Approx. No. per lb.	
				Brass	Steel
4	23/64	.120	.015	1560	1700
5	25/64	.143	.015	1300	1325
6	7/16	.167	.015	1050	1140
8	½	.193	.018	693	770
9	17/32	.198	.018	627	635
10	37/64	.228	.020	536	570
12	⅝	.234	.022	370	384
¼ and 14	23/32	.288	.022	295	325
16	¾	.319	.023	240	262
18	55/64	.355	.025	180	216
5/16	⅞	.375	.025	173	187
⅜	1	.484	.025	132	142

Flush Type Countersunk Washers

Used with wood screws where the head of the screw is to be flush with the surface of the wood.

Made from brass only, but can be furnished in a nickel plate or other finish.



Screw, size No.	Outside diam., in.	Inside diam., in.	Gauge of stock	Approx. No. per lb.
4	19/64	9/64	.012	4620
5	19/64	5/32	.012	4615
6	23/64	11/64	.012	3100
8	13/32	13/64	.015	1980
10	15/32	13/64	.016	1300
12	9/16	¼	.023	590
14	⅝	17/64	.025	422

Miscellaneous Washers

We carry on hand at all times a large stock of flat brass and steel washers in various sizes.

In our tool room we have over one thousand sets of washer tools which enable us to promptly furnish almost any size washer from ⅛ in. hole to 6 in. diameter and up to ½ in. thick.

Making a specialty of washers, we can offer you a greater variety of sizes, a quicker delivery, a better washer and a lower price.

Your inquiry will receive our prompt attention.

SHAKEPROOF LOCK WASHER CO.

DIVISION OF ILLINOIS TOOL WORKS

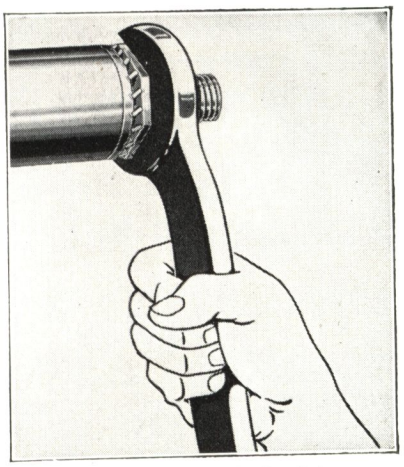
Manufacturers of Lock Washers and Locking Terminals

2505 North Keeler Ave., CHICAGO, ILL.

Shakeproof Lock Washers

Shakeproof Lock Washers are engineered to lock nuts positively and to eliminate the many mechanical and production troubles found in other types of washers. Their accepted use on practically every car in the automotive field and in over 150 other types of industries gives good evidence of their universal application and success.

Shakeproof Lock Washers are made of high carbon steel, heat treated. From 6 to 20 teeth, depending on the size of the washer, evenly spaced, are set at a slight angle. When the nut is turned down against the washer, these teeth mill a slight groove in both the nut and the work. Each tooth forms two positive locking points and only applied pressure can loosen the grip. Vibration tightens the hold of Shakeproof Lock Washers.



Showing Method of Applying a Shakeproof Lock Washer

Note how the twisted teeth bite into the nut and the work. Only applied pressure can loosen the grip of Shakeproof.

Shakeproof Lock Washers are made in sizes to cover practically every possible application in industry. Their locking does not injure the nut or the work, and they can be removed and replaced as many times as desired.

Advantages of Shakeproof Lock Washers

Being of one-piece construction, Shakeproof Lock Washers cannot tangle or link. This feature alone has saved many manufacturers a countless amount of time. In addition to this feature, Shakeproof Lock Washers save in bolt lengths, are much more easily and rapidly applied than other washers and also, due to light weight, save in shipping costs.

Make your own test. We will gladly send you upon request as many washers in any sizes you need to make tests in your own shop.



Type 11 External-tooth Washer

This washer is made with the twisted teeth on the outside circumference. It is recommended for all production where standard bolts and nuts are used.

Stock No.	Screw or bolt size	Dimensions, in.		
		Outside diam.	Inside diam.	Thickness
1104	No. 4	.275	.118	.018
1106	No. 6 and 1/8	.313	.145	.018
1108	No. 8 and 5/32	.375	.175	.021
1110	No. 10 and 3/16	.390	.200	.024
1114	No. 14 and 1/4	.490	.262	.030
1118	No. 18 and 5/16	.577	.328	.030
1120	3/8	.703	.390	.040
1122	7/16	.787	.455	.040
1124	1/2	.875	.520	.045
1126	9/16	.912	.591	.040
1128	5/8	1.050	.650	.050
1132	3/4	1.188	.781	.050
1134	7/8	1.375	.915	.062
1136	1	1.625	1.063	.062



Type 15 Countersunk Lock Washer

This washer is designed for locking countersunk screws. It has many applications where countersunk screws are used.

Stock No.	Screw or bolt size	Dimensions, in.		
		Outside diam.	Inside diam.	Thickness
1506	No. 6 and 1/8	.289	.145	.018
1508	No. 8 and 5/32	.333	.172	.018
1510	No. 10 and 3/16	.375	.200	.021
1512	No. 12	.406	.225	.021
1514	No. 14 and 1/4	.462	.260	.021
1516	No. 16	.516	.281	.024
1518	No. 18 and 5/16	.635	.328	.024
1520	3/8	.732	.391	.030

Type 12 Internal-tooth Washer

This type of washer is recommended for S.A.E. and standard machine screws. The twisted teeth are set on the inside of the washer.



Stock No.	Screw or bolt size	Dimensions, in.		
		Outside diam.	Inside diam.	Thickness
1204	No. 4	.250	.118	.014
1206	No. 6 and 1/8	.300	.145	.014
1208	No. 8 and 5/32	.340	.172	.018
1210	No. 10 and 3/16	.400	.200	.021
1214	No. 14 and 1/4	.500	.265	.024
1218	No. 18 and 5/16	.593	.335	.030
1220	3/8	.688	.391	.035
1222	7/16	.787	.454	.035
1224	1/2	.875	.520	.040
1226	9/16	.950	.578	.040
1228	5/8	1.063	.650	.045
1232	3/4	1.250	.781	.050
1234	7/8	1.375	.915	.050
1236	1	1.625	1.063	.062

Shakeproof Terminals

In the radio field Shakeproof Locking Terminals are dominant, being used on practically all sets manufactured. The locking feature assures a tight terminal and positive contact, eliminating all troubles experienced with loose terminals. Made in large variety of sizes and shapes from bronze. Samples sent on request.



Shakeproof can be adapted to any locking problem. Submit any that may be confronting you to our engineers and we will gladly make recommendations, without obligation on your part.

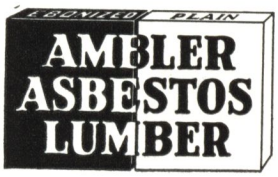
AMBLER ASBESTOS SHINGLE & SHEATHING COMPANY

Factories: Ambler, Pa. and St. Louis, Mo.

Branches:

BOSTON, MASS.
BUFFALO, N. Y.
CHICAGO, ILL.
CLEVELAND, OHIO
DETROIT, MICH.
MILWAUKEE, WIS.
MINNEAPOLIS, MINN.
NEW YORK, N. Y.
PHILADELPHIA, PA.
PITTSBURGH, PA.
WILKES-BARRE, PA.
WASHINGTON, D. C.

Ambler Ebonized Asbestos



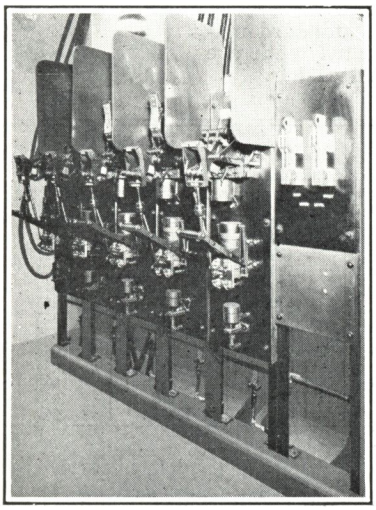
Ambler Ebonized Asbestos is a specially treated material which is highly desirable for switchboards and panelboards. It is made of asbestos fibre and suitable binding cements compressed under great heat and pressure to produce a panel having high dielectric and physical strength (See table below).

It contains no metallic ingredients—the raw materials are carefully screened, cleaned, tested and subjected to a magnetic separator before mixing.

Ambler Ebonized Asbestos is approved by the Underwriters' Laboratories, Inc. of Chicago and meets the specifications of the Bureau of Engineering of the United States Navy.

Switchboards made of Ambler Ebonized Asbestos can be considerably reduced in thickness because of the great mechanical strength which this material possesses. It will also withstand severe shocks and vibration. Its electrical and physical qualities are not impaired by moisture or rapid changes in temperature.

Ambler Ebonized Asbestos can be readily worked without danger of fracturing or splitting. *Complete detailed instructions for cutting, beveling, mending, drilling, etc. are contained in our catalog, copy of which will be sent on request.*



Sectionalizing Switchboard Ambler Ebonized Asbestos Lumber. North Broad Street Subway, Philadelphia, Pa.

Ambler Ebonized Asbestos is black in color and can be supplied in either of two finishes:

Standard finish for ordinary mountings where appearance is not important.

Panel Finish for such installations as main control boards, etc. where appearance is an important factor.

Standard Sizes—Ambler Ebonized Asbestos is furnished in sheet form in the following standard sizes:

42 x 48 in.—all thicknesses from ⅛ to 4 in. inclusive.

42 x 96 in.—All thicknesses as above except ⅛ in.

36 x 48 in.—All thicknesses on request.

PHYSICAL AND ELECTRICAL PROPERTIES OF AMBLER EBONIZED ASBESTOS

(Tests made by the Electrical Testing Laboratories, Inc., of New York)

Apparent specific gravity	2.043
Apparent density, lbs. per cu. in.	0.0738
Compression strength, lbs. per sq. in.	15,000
Modulus of rupture, lbs. per sq. in.	5,500
Moisture absorption	Practically nil
Dielectric strength, volts per 1-in. thickness	55,000

Ambler Cold Moulded Asbestos Insulation Products

Ambler Moulded Ebonized Asbestos—A cold moulded product having the same electrical and physical characteristics as Ambler Ebonized Asbestos in sheet form.

Can be used satisfactorily where large quantities of special shapes not readily fabricated from the sheet material are required.

Moulds for this purpose can be easily made in your own shop.

The largest size suitably moulded is 20 x 25 in.

Ambler White Cold Moulded Asbestos—Made of asbestos fibre with an inorganic ingredient as a binder. It will withstand temperatures as high as 1200° F. and becomes stronger and tougher with age. It has a tensile strength of 3000 lb. per sq. in.

Ambler White Cold Moulded Products are shaped cold under very high pressure and are then heat treated until solidified and toughened.

Holes, inserts, trade marks, etc. are easily moulded into each piece thus eliminating drilling.

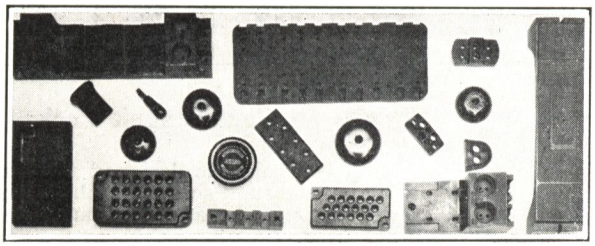
Ambler White Cold Moulded Asbestos is an excellent material for arc shields, barriers, blowout shields, etc. but is not recommended for mounting current-carrying parts.

"Ambleroid" Black Cold Moulded Asbestos—A black finished asbestos material having an average dielectric strength of 14,000 volts per ¼-in. thickness. It absorbs practically no moisture, does not warp or shrink and is unaffected by temperatures up to 550° F. It is non-combustible and will not rot or scale.

Approved by Underwriters' Laboratories, Inc.

Suitable for the manufacture of parts of electrical devices where durability, non-absorption, and high insulating properties are desired. Metallic inserts and knurling can be employed to advantage in "Ambleroid" in most cases.

Our engineering department is always available for expert advice in solving problems on moulded parts.



Typical Examples of Ambler Cold Moulded Products

Other Ambler Asbestos Products

Ambler Asbestos Lumber
Ambler Asbestos Corrugated Sheets
Ambler Asbestos Shingles
Ambler Linabestos (Asbestos Board)
Ambler Asbestos Waltile

A complete catalog containing detailed information on each of the above products will be sent on request.

NATIONAL SLATE ASSOCIATION

Member Company Specializing in
Monson Maine Electrical Slate
PORTLAND-MONSON SLATE CO.
Portland, Maine
Member Companies Specializing in
Pennsylvania Electrical Slate
PHOENIX SLATE CO.
Wind Gap, Pa.
THE STRUCTURAL SLATE CO.
Pen Argyl, Pa.

Drexel Bldg.
PHILADELPHIA, PA.

SLATE
CONSIDER ITS USES

Member Companies Specializing in
Vermont Electrical Slate
FAIR HAVEN MARBLE & MARBLEIZED SLATE CO.
Fair Haven, Vt.
PENRHYN SLATE CO.
Hydeville, Vt.

BETTER YOUR PRODUCT BY USING ELECTRICAL SLATE

The Standard by Which All Other Electrical Insulating and Structural Materials Are Judged

Manufacturers of electrical apparatus of the better kind no longer experiment with substitute materials—*they use slate.*

The use of slate as an insulating and structural material will make your product better both from a structural and mechanical standpoint, and will place it in the "preferred" class because of the insistent demand for slate-equipped apparatus. Users of electrical equipment know from years of experience that *there is no substitute for electrical slate*—they naturally specify, demand and buy slate-equipped apparatus because they know it to be the best that can be obtained.

This modern preference for slate-equipped apparatus is due to the remarkable and unequalled properties of electrical slate, which is adding to its good reputation every day.

Electrical slate is strong, non-combustible and pleasing in appearance and finish, and is readily drilled and machined. It affords sufficient insulation value for all commercial voltages and practical purposes under varying conditions encountered on switchboard and other installations requiring insulation.

Electrical slate is hard, tough, elastic and highly resistant to abrasion—it readily dissipates the constant shocks, blows and vibrations, which makes it particularly suitable as a mounting for industrial controllers, circuit breakers, contactors, oil switches and other severe-duty service requirements.

It will not deteriorate under electrical overloads or mechanical stresses; it is practically non-absorbent, is not affected by chemical fumes and does not carbonize or disintegrate under heat—it will continue to render satisfactory service long after the equipment with which it is connected becomes obsolete.

Because of its extremely low coefficient of contraction and expansion under changing conditions of heat and humidity, electrical slate offers decided advantages for such applications as terminal boards on transformers, motors and generators, also for arc shields and division walls for circuit breakers, oil switches and high tension switching equipment.

Electrical slate has a high dielectric value and consequently is pre-eminent as an insulating material by virtue of its inert chemical composition, freedom from metallic veins and freedom from excess content of carbonaceous matter.

Every piece of electrical slate is carefully selected from the quarries, and is cut, fitted and finished to suit the designs and requirements of the electrical manufacturer. The fact that electrical slate can be milled to any size to suit the customer, makes it peculiarly adaptable to the requirements of electrical manufacturers and contractors.

Uses of Electrical Slate

The many purposes for which electrical slate is finding rapidly expanding use are partially indicated by the following list of applications in which it has proven to be advantageous.

Panels or slabs of slate to receive electrical apparatus and instruments of all types comprise the greater part of the list of uses of electrical slate—they vary from the small block to receive a single switch or delicate instrument (such as a resistance base in a portable wattmeter) to the large slabs which form the panels for the largest switchboards.

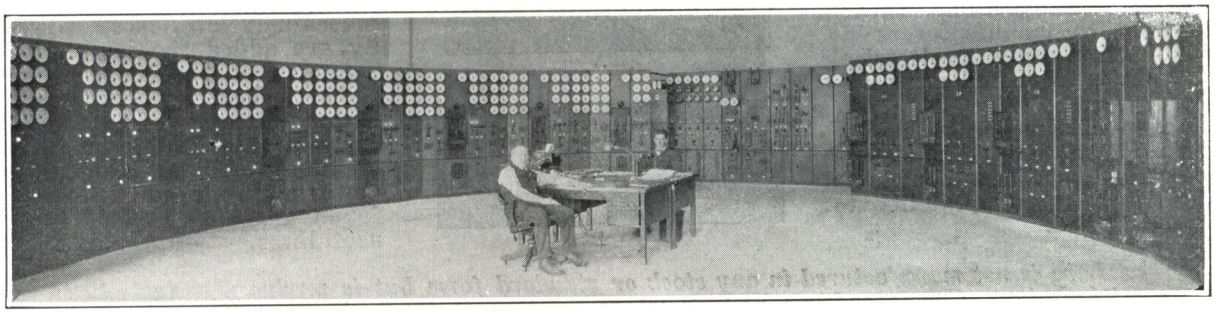
- Switchboard panels
- Benchboards
- Counter shelfs and backs for meter test boards
- Cabinets for electrical purposes
- Control panels for all types of apparatus
- Bases for circuit breakers, all types of switches, fuse blocks, rheostats, rectifiers, etc.
- Division Walls for reactance coils
- Linings and division walls for oil switches
- Arc shields and barriers on circuit breakers and high tension switching equipment
- Slotted backs for low tension bus bar supports
- Terminal boards, cable clamps, division walls and linings for transformers
- Face plates for motor starters and speed regulators

Expert Service to Electrical Manufacturers

The National Slate Association offers a convenient and unbiased service to those interested in the use of electrical slate so as to enable them to utilize this important material to better advantage. The results obtained by many years of tests and research work of this Association are available to electrical manufacturers and others, who are invited to avail themselves freely of the services and accumulated authentic information of our research laboratory.

The Association freely offers expert and impartial advice to electrical manufacturers on any specific product where electrical slate may be used to improve it.

The members of the Association listed above are reliable and responsible sources of supply for electrical slate.



Installation of Slate in the Huge Power Plant of the Niagara Falls Power Co., Niagara Falls, N. Y.

AMERICAN LAVA CORPORATION

Manufacturers of Lava Electrical Insulation

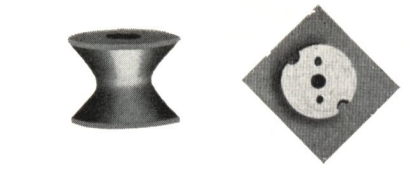
Factory and General Office
CHATTANOOGA, TENN.

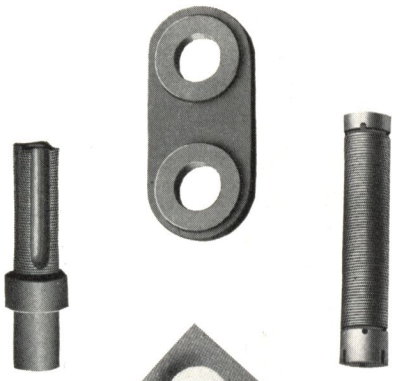
Lava—A Superior Insulation for Manufacturers of Electrical Equipment

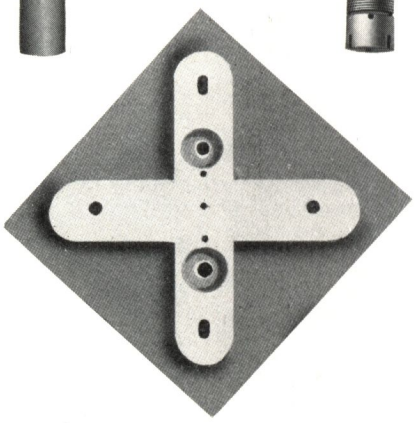
Manufacturers of all types of electrical equipment have long recognized the superior quality of Lava insulation. Due to its continuously uniform high quality, its use has often been a preferred specification, and frequently the application of Lava lends a distinct sales advantage to the product carrying it.

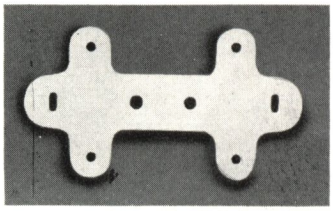
Lava is a high quality silicate of magnesia found in a natural state. Mined or quarried from well defined deposits, it is then sawn into blanks and machined to commercial form. By this method of processing both the cost and delay incidental to the use of dies is avoided. Lava as a material is extremely hard and is possessed of great mechanical and dielectric strength. It is dense, tough, non-hygroscopic and unaffected by most solvents. As a heat resistant material it is very superior, combining great thermal strength with a very low coefficient of expansion; wide extremes of temperature have little effect upon it.

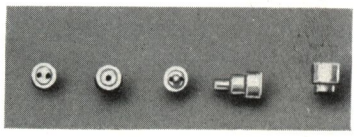
Lava being processed by machining operations common to the metals, i.e., drilling, milling and turning, results in a product of great accuracy and uniformity. Thus, interchangeability with metal parts is freely gained and. due to this and many other offered advantages, the field of usefulness for Lava is ever widening.











Applications of Lava to Electrical Equipment Insulation

To list the remarkably diversified and extensive applications for Lava would be impossible. Yet its usefulness to manufacturers of the following kinds of electrical equipment is more and more recognized.

Because of the special importance of Lava to certain classes of electrical equipment, such as those listed, its adaptability to them is stressed.

Domestic appliances
Industrial heating units
Measuring and recording instruments
Control devices
Resistance of all types
Furnaces and treating ovens
Dental and electro-surgical instruments
Radio
Vacuum tubes

Domestic appliances requiring an insulation of great mechanical, electrical and thermal strength, as well as the same precision obtained from metal parts, are insured all these characteristics by the application of Lava. The almost unlimited variety of design and form in which Lava can be supplied admits an extremely wide use at costs frequently representing a saving in contrast to the use of other materials.

Heating units, particularly those of cartridge type, derive peculiar advantage from the use of Lava. In addition to great strength and heat resistivity, Lava cores due to freedom from warpage may be specified to a snug fit with the metal cartridge. Further, threads of such depth and definition can be furnished as to make unnecessary the use of fillers or insulating cement.

Grade "I" Lava for Radio Use

Radio and radio vacuum tube construction have provided an ever increasing number of applications for Lava. To meet the highly specialized needs of this industry a special insulation known as grade "I" Lava has been most successfully developed. To its freedom from emission and exceedingly low absorptive capacity are added the important advantages of precision, accuracy, strength, heat resistivity and virtual maintenance of fixed relation. Thus in the building of all types of tubes of both receiving and power nature, grade "I" Lava has found an extraordinary place of usefulness.

Lava is not manufactured in any stock or standard form but is produced exclusively to special design. Correspondence and drawings relating to its application, or requests for samples, are cordially invited. Kindly address our specification department.

THE MACALLEN CO.

Manufacturers of Insulating Materials and Electrical Specialties

25 Macallen Street, BOSTON, MASS.

Jobbers and Agents in All Principal Cities Throughout the World

Macallen Compressed Sheet Mica

TRADE MACALLEN MARK.

Natural mica has a dielectric strength of approximately 1,000 volts per .001 in. of thickness. Its even cleavage, transparency, toughness, hardness, elasticity and flexibility adapt it to many uses. Mica is found in various colors and sizes. The white (Muscovite) or India mica is valued for its hardness and transparency. Amber mica is so called because of its amber color. It is softer than India mica but possesses all the properties which make it ideal as a dielectric.

Macallen Compressed Sheet Mica is a standard product made of standard materials to standard formulas. In its manufacture only a selected grade of India and Amber mica is used. Sheets are composed of very thin pliable mica splittings, bound together with a suitable cementing material, and then compressed and baked.

No. 1 India Plate (Milled Molding Plate)—Suitable for commutator rings, troughs, spools and tubes. Made of India mica with shellac binder; baked and milled to desired thickness. When heated to 275° F., it can be molded into various shapes without breaking or flaking.

No. 3 India Plate (Molding Plate)—Same materials and properties as No. 1 India Plate but has slight variations in thickness

No. 2 India Plate (Milled Segment Plate)—Suitable for segment and other flat work but cannot be molded. Milled to uniform thickness and will not soften under heat.

No. 5 Amber Plate (Milled Segment Plate)—Selected Amber Mica films and pure shellac, baked and milled to desired thickness. It is used for the same purpose as our No. 2, but is preferred by some manufacturers because of its softer quality.

No. 8 Plate—Used for flat work and general insulation purposes. Has considerable variation in thickness. Furnished in thicknesses of not less than 1/16 in. Can be drilled and turned and will not break readily under vibrations.

No. 7 Flexible Plate (For Cold Forming)—Consists of very thin films of India sheet mica held together with special varnish. Combines great flexibility and will bend over short radii without scaling. Bends into shape without the aid of heat. It is excellent for insulating armature slots, transformers, etc.

Above grades supplied in thicknesses from .005 in. up.

No. 9 Mica Paper

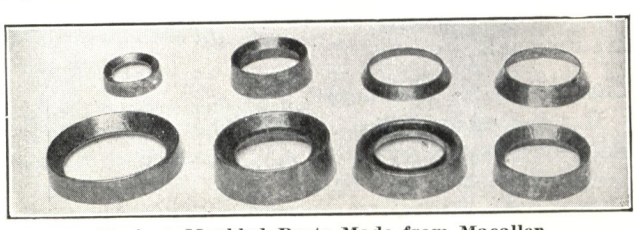
Made of one, two or three layers of India mica films, bound between layers of Japanese rice paper and a special binder. Combines great flexibility without danger of scaling. Used for armature slots, commutator cores, etc. Standard sheets 36 in. wide in any desired length. Smaller sizes furnished if desired.

No. 10 Mica Cloth

Identical to No. 9 Mica Paper but is made with best grade muslin or silk cloth in place of paper. Stronger than mica paper. Standard sheets 36 in. wide in any reasonable length.

No. 13 Mica Tape

Composed of thin India mica films, carefully overlapped and bound between two layers of thin, strong insulating paper. Used for wrapping and winding coils, armatures, etc. Supplied in rolls, approximately 100 ft. and packed in cans containing seven rolls (700 ft.). Special sizes made to order.



Various Moulded Parts Made from Macallen Compressed Sheet Mica

Special Combination Insulating Papers to Order

Special combinations such as red rope paper, pressboard and fish paper combined with mica made on order in standard widths, 36 in. Special sizes made to order.

Heater Plate

Made from both India and Amber mica. Contains only a small amount of binder which burns out when heat is applied, leaving only mica of high thermal and electrical resistance. Regularly supplied in 18 x 36 in. sheets. Special sizes on order. Cannot be molded.

Compressed Sheet Mica Tubing

Made to accurate dimensions, any size and quality. Great tensile and electrical strength. List prices on request. Following grades in any sizes:

All Mica Tubing—Highest grade; has high resistance and will not soften easily. For high potential work where paper is inadequate; for sleeves, brush-stud holders, grid rheostat rods, etc.

98% Mica Tubing—Same as All Mica Tubing, except with outside paper covering which prevents scaling.

85% Mica Tubing—A combination of mica and paper. Used for work where a small amount of paper is permissible and yet high quality insulation is desired.

50% Mica Tubing—50% compressed sheet mica and 50% paper. Used where there is not sufficient heat to affect the paper, and where extra high insulating qualities are not required.

Asbestos and Mica Tubing—Composed of 40% compressed sheet mica and 60% asbestos. Used for apparatus subjected to moderate heat, such as rheostats, resistance boxes, etc. Furnished in any size.

Mica Commutator Insulation

Macallen mica rings are hard and of uniform dimensions. Mica segments are clean cut, accurate, non-slipping and non-oozing. Rings and segments are made in various sizes for different makes of motors and generators. Send drawing with request for prices.

Compressed Sheet Mica Washers

For places of low temperature. All shapes and sizes. Send drawing with request for prices.

Domestic and Imported Raw Mica

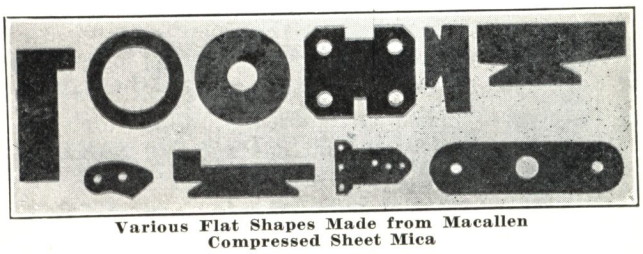
We can furnish domestic and imported raw mica in various forms: cut and uncut electrical mica, ground mica, etc. Recommended for work dealing with high voltage and heat. List prices on application.

Macallen Insulating Joints and Canopy Insulators

Made in all sizes and types for fixtures, air, gas and water lines and for many unusual as well as common purposes. Consult us upon your insulating joint problems. We probably have the proper solution.

Macallen Railway Specialties

These specialties are for high and low voltage trolley lines, third rail lines, power transmission lines, etc., for both electric railway and mine hauling purposes.



Various Flat Shapes Made from Macallen Compressed Sheet Mica

MICA INSULATOR COMPANY

ESTABLISHED 1895

Manufacturers of Electrical Insulating Materials

200 Varick St., NEW YORK, N. Y. 542 So. Dearborn St., CHICAGO, ILL.
CLEVELAND, OHIO CINCINNATI, OHIO BIRMINGHAM, ALA. SAN FRANCISCO, CALIF. TORONTO, ONT., CAN.
PITTSBURGH, PA. SEATTLE, WASH. LOS ANGELES, CALIF. MONTREAL, QUE., CAN.

Works

SCHENECTADY, N. Y. LONDON, ENGLAND

PERFECT MICANITE INSULATOR REG. U.S. PAT. OFF.

SUPER MICANITE INSULATOR

PERFECT EMPIRE INSULATOR

Products

Super-Micanite and Micanite pasted mica electrical insulations; electrical cut mica; Empire Oiled Silk Cloth and Paper Insulations; Oiled Tubing; Mico Insulating Varnishes; Mico Tapes; Fibre; Fish Paper—a comprehensive line of electrical insulations. Cramolin liquid and paste for cleaning, lubricating and maintaining electrical contacts.

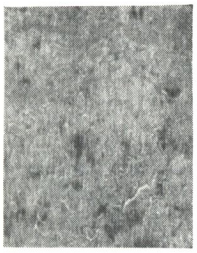
Super-Micanite Products

Super-Micanite is the latest scientific development of built-up mica plate in which a patented synthetic cement, of outstanding electrical, chemical and physical characteristics, replaces the shellac bond used in other built-up mica insulations. This insulation is of uniform high quality, of great dielectric strength and is finished to a tolerance of 1/1000 inch.

Super-Micanite is manufactured exclusively by the Mica Insulator Company.

Micanite

For 37 years Micanite has been the best of its type and where a shellac bonded plate can be used, we recommend Micanite.



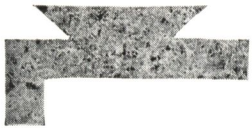
Molding Plate

Is intended only for molding, having characteristics that permit of easy molding when the plate is heated, and a return to its original rigid condition when cooled. Available in sheets of 18″ x 36″ in thicknesses from .020″ to ⅛″.

Commutator Segment Plate

Has characteristics especially suited to this insulating application, namely, high specific weight, uniform thickness and density, high dielectric strength, very low cement content and compressibility. Moreover, it will not slip, shrink nor ooze. Made from Amber or India mica in sheets 18″ x 36″, in thicknesses from .020″ to 1/16″.

Commutator Segments



Made from Segment Plate furnished to your specifications, in any size and shape. Our large punch press and saw departments enable us to make prompt shipments.

Commutator Rings



Moulded to finished form in our molding departments. They have been made in all sizes from the smallest of fractional horsepower motors to the enormous rings required by the largest motors and generators. Can be furnished as solid V rings, sectional V rings, or inside and outside cones.

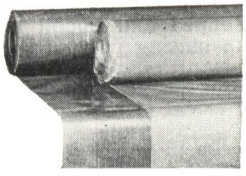
Heater Plate



Designed for applications where the insulation must withstand high temperatures—such as flat irons and other heating devices, furnace insulation, etc. Different types of plates are available of Amber or India mica, bonded by Super-Micanite or inorganic cements, depending on use.

Empire Oiled Cloths

Flexible age-resisting electrical insulation of high dielectric and tensile strength, made from special cotton fabric which is impregnated with pure linseed oil, oxidized by our special process.



Our finishing process assures the original strength of the fabric with electrical insulating characteristics that are unusual.

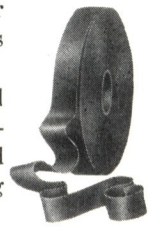
Black Empire (Kablak) Cloth

Has the same high quality as the yellow Empire cloth but is impregnated with an asphaltic base compound.

This cloth retains its flexibility under prolonged high temperatures and electrical stresses.

Seamless Bias Linotape

All Linotape either straight or bias cut is Empire and Kablak insulating cloths in tape form. The ideal insulation for coils, cables and bus bars. Widely used for high-tension insulating purposes. Furnished in 5, 10 and 36-yd. rolls for coil-winding machines. Standard rolls contain 72 linear yards.



Free from the limitations of sewed seam tape, but possessing all the advantages of the regular impregnated bias tape—the superior tape for taping machines.

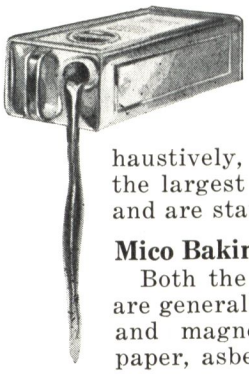
Cramolin—the Safeguard for all Rubbing Electrical Contacts

Cramolin cleans, lubricates and protects rubbing electric contacts. Cramolin liquid is widely used for commutators on which it minimizes sparking, contact resistance and wear, and prolongs the life of both commutator and Brushes.

Cramolin in paste form is recommended for switch blades, controller fingers and similar sliding electrical contacts. It offers the surest way to insure perfect contact and minimum sparking.

Both Cramolin liquid and paste are extremely economical, non-inflammable and absolutely harmless.

Mico Insulating Varnishes and Compounds



These materials comprise a new and complete line, representing the products of years of research and experiment.

They have been tested, exhaustively, on the equipment of some of the largest electrical plants in the world, and are standards in many plants.

Mico Baking Varnishes

Both the black and the clear varnishes are generally used for armature coils, field and magnet coils, for covering cloth, paper, asbestos, hard fibre, and wherever high insulation and lasting protection from moisture is required. Various degrees of toughness may be obtained by varying the baking period.

Mico Air Drying Varnishes

Made as glossy black or clear varnishes. Recommended for general insulating work, where it is not convenient to use a baking varnish. Like the baking grade of Mico Varnish, the air drying grade repels moisture, is oil and weather proof. Can be used to repair coils, and is recommended for commutator and transformer work. Dries in a few hours.

Mico Filling Compound

This putty-like compound is used for filling between windings or coils. It is well suited for filling stator ends in motors that are subjected to hard service and where the coils may be exposed to acids, alkalies or conducting dust. This filling compound prevents foreign matter entering the windings. Supplied in airtight containers, which should be kept closed to prevent deterioration.

Mico Cement

This cement has a high insulating value, is water repellent, waterproof, and flexible. It is most satisfactory for sticking together oily, glossy surfaces such as that possessed by Linotape, Empire Cloths, and papers. It has no equal for pasting labels on to oily or damp surfaces.

Mico Friction and Rubber Tapes

Mico Friction Tape—Both the black and gray friction tapes possess great adhesive qualities and are so compounded as to form a good insulator.

Used extensively for armature and cable work. Furnished in rolls, ¾ in. wide.

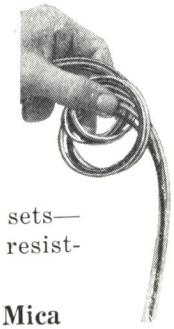
Mico Rubber Tape—Is strong and elastic, and needs no heat in its application.

Furnished in rolls, ¾ in. wide.

Mico Splicing Gum

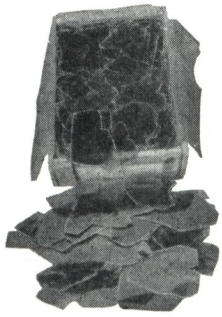
Is an all-rubber compound without cloth, made from para rubber. This tape, wound at ordinary temperatures, on a joint will become a solid mass and make a watertight joint. It is a tough elastic tape.

Varnished Cambric Tubing



Is made of tough, closely braided cotton fabric, impregnated with numerous layers of varnish—each layer baked when applied.

The ideal electrical insulator for a-c. motor and generator phase connections, motor leads, ignition systems, transformer connections, radio sets—in fact wherever a dependable, age resisting insulation is required.



Block and Split Mica

Block mica in the original cases, containing domestic, India, Africa, amber, Guatemala, etc., mica as received.

We also furnish split gauged mica of any desired quality and form for condenser films, toasters, radio parts, flat irons, fuse discs, washers, etc.

We carry the largest stock of imported mica in America.

Send for Catalog



Our new catalog describes, in detail, the entire line of Electrical Insulating Materials made by the Mica Insulator Company.

Write for your copy today.

Continental-Diamond Fibre Company

Manufacturers of Dilecto—Diamond Fibre—Celoron

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LOS ANGELES, CAL. MILWAUKEE, WIS.
SAN FRANCISCO, CAL. CHICAGO, ILL.
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INDIANAPOLIS, IND.

In Canada: DIAMOND STATE FIBRE CO. OF CANADA, LTD.
350 Eastern Avenue, Toronto

DILECTO—THE INSULATING MATERIAL THAT MEETS EVERY INSULATING NEED

Dilecto, because of its high dielectric strength, great physical strength, low moisture absorption, ready machinability and permanence, is today protecting the vital points of electrical apparatus and equipment everywhere.

Progressive manufacturers of electrical and radio equipment are using Dilecto to insulate their products. They know that at every point where Dilecto is used the dependability of that part is at once brought up to an absolute maximum, because of the high insulating and mechanical properties obtainable in Dilecto insulating material.

Dilecto, because it can be readily machined, is also an asset in keeping down costs because of its ready adaptability to modern high speed mass production.

Nature and Properties of Dilecto—Dilecto is a phenolic resin-impregnated paper or fabric, made in the form of laminated sheets, rods, tubes and fabricated shapes. Every step of its manufacture is carried out under our own rigid supervision.

Dilecto insulation always meets the following specifications:

1. A surface resistance of at least 100 megohms after four days' exposure to humidity of 90% and 95° F.
2. A dielectric constant below 6.
3. A power factor below 4.5.
4. Dielectric strength not less than 700 volts per mil.
5. A tensile strength (⅛" material) 15,000 pounds per square inch.

Forms of Dilecto—Dilecto is made in sheets, rods and tubes, and is available from warehouses and fabricating shops in New York, Cleveland, Chicago and Toronto.

Sheets range in size from 29 x 39 in. to 46 x 70 in., and from .005 to 6 in. thick. Tubes and rods range in size from ⅛ in. to 4 ft. inside diameter, and in any wall thickness from 1/32 in. up. Tubes and rods are furnished round, square or rectangular, in lengths from 18 to 45 in., either plain or drilled, turned, bored, reamed, counterbored, threaded or chased to your specifications.

Color and Finish of Dilecto—Dilecto is furnished in black (glossy or dull); natural (a golden brown semi-gloss); natural walnut and mahogany wood grains.

Where Dilecto Is Used

Dilecto is being extensively used by hundreds of manufacturers of every conceivable class of electrical products, a partial list of which follows:

Attachment Plugs
Annunciators
Bus Bar Supports
Bells and Buzzers
Chafing Dishes
Circuit Breakers
Clocks, Electric
Commutators
Cable Terminals
Cutouts
Drills, Electric
Fans
Fire Alarms
Fireless Cookers
Flashlights
Fuses
Fuse Blocks
Grills
Heaters
Instruments
Instrument Boards
Instrument Cases
Ignition Coil Cases
Ignition Timers
Insulators
Ironing Machines
Lightning Arresters
Lamps
Meters
Motors (Brush Holders, Commutators, etc.)
Motor Control
Pushbuttons
Panelboards
Ranges
Refrigerators
Rectifiers
Radio Panels and Parts
Rheostats
Relays
Switches
Switch Bases
Signal Apparatus
Sockets
Soldering Irons
Sterilizers
Switch Plates
Switchboards
Therapeutic Appliances
Toasters
Toys, Electric
Transformers
Vacuum Cleaners
Waffle Irons
Washing Machines
Washers, Bushings, Pins
And hundreds of other uses too numerous to list.

Other uses may suggest themselves, or, if you wish, we shall be glad to co-operate with you in developing the use of Dilecto in your product to replace more expensive or less efficient materials.

DIAMOND FIBRE

Diamond Fibre, in the form of sheets, rods and tubes finds many uses in the electrical industry where an insulating material having great mechanical strength and high insulating qualities for use where it is not subject to water or excessive moisture is needed.

Diamond Fibre is manufactured entirely in our own plant. We have complete control over every process including the manufacture of the basic material, paper, which is probably the most important single factor in the manufacturing process where extreme care is necessary to produce material having high insulating qualities.

Diamond Fibre can be machined or fabricated easily and readily adapts itself to many thousands of intricate insulating parts.

Diamond Fish Paper—An exceptionally strong insulating paper, with high insulating qualities. Can be bent or folded in any direction without danger of splitting.

Strong—Durable—Smooth—Rust-Proof BOXES—TRUCKS—CANS—BARRELS of Diamond Fibre

The high mechanical properties of Diamond Fibre make it a material particularly well adapted to the manufacture of many types of receptacles for the use of transporting materials in your plant.

Receptacles made of Diamond Fibre are perfectly smooth, rust-proof, strong, durable, and will withstand many years of hard usage. In addition they are light in weight, and for this reason help to cut handling costs.

Boxes—Cans—Trucks—Barrels, etc., can be made to your specifications, and we suggest that you send for a copy of the Diamond Fibre Catalog, describing in detail the construction of Diamond Fibre Receptacles.

CELORON FOR SILENT GEARS

Celoron is a material made by coating sheets of heavy fabric with resin, which when subjected to heat and pressure, solidifies and makes the material so treated impervious to the action of water, oil, chemicals—gives it great mechanical strength, and in addition sufficient resiliency to insure quiet operation of gears cut from it.

Celoron gears are being used extensively to quiet noisy machinery, to absorb vibration and consequently lessen the wear on the entire machine, and to replace metal gears and other types of gears which do not stand up under contact with chemicals, dust, dirt, grease, oil and rodents. A copy of the Celoron Silent Gear Catalog is yours for the asking.

The Formica Insulation Company

Factory and Main Office

4662 Spring Grove Avenue, Cincinnati, Ohio

Sales Offices

BALTIMORE, MD. .....702 Title Bldg.
BOSTON, MASS.....11 Beacon St.
CINCINNATI, OHIO.....4614 Spring Grove Ave.
CHICAGO, ILL. .....11-17 S. Des Plaines St.
CLEVELAND, OHIO .....501 Caxton Bldg.
DENVER, COLO.....Argonaut Hotel
DETROIT, MICH.....401 Buhl Bldg.
HOUSTON, TEX.....601 San Jacinto Life Bldg.
KANSAS CITY, MO. .....308 E. 17th St.
MINNEAPOLIS, MINN. .....1026 Second Ave., South
NEW ORLEANS, LA.....812 Masonic Bldg.
NEW YORK, N. Y. .....129 Charlton St.
PHILADELPHIA, PA. .....725 Bulletin Bldg.
PITTSBURGH, PA.....405 Penn Ave.
ROCHESTER, N. Y. .....327 Cutler Bldg.
ST. LOUIS, MO. .....4497 Pershing Ave.
SAN FRANCISCO, CALIF. .....585 Mission St.
TOLEDO, OHIO .....419 Ohio Bldg.

Laminated Phenolic Insulation

FORMICA
Made from Anhydrous Bakelite Resins
SHEETS TUBES RODS

For 16 years Laminated Phenol Fibre insulation has been supplied by The Formica Insulation Company to leading American technical organizations. It is made in sheets, tubes and rods and in parts of all types that may be machined from these forms. The sheets are 36 x 42 in. and 36 x 60 in. and vary in thickness from a small fraction to 6 inches.

Formica

Made in a number of grades: "X" is a grade with good moisture resistance for ordinary electrical uses, "XX" is a grade of higher resin content for use where moisture conditions are more severe; "C" is a canvas-base grade for gears and electrical uses where structural strength is required; "L" is a linen-base grade for small gears, where a smooth tooth formation is essential; "D" is a grade with special wood, marble and fancy finishes.

Formica for Electrical Uses

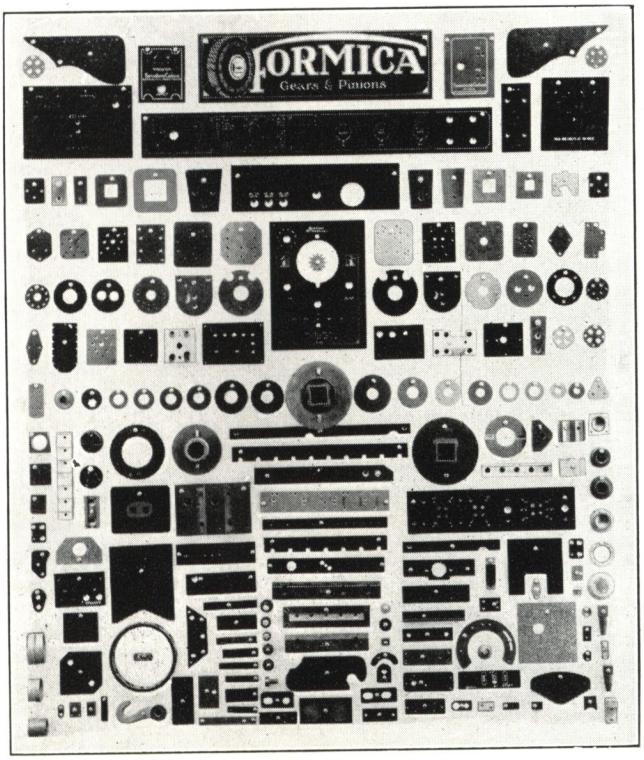
Formica is used in a very wide variety of electrical devices. Where insulation is important it is likely to be found. Many small Formica parts are used in most of the automotive ignition systems made in the United States. Formica is also used in many types of switches and circuit breakers, where it often combines both insulating and structural functions.

Formica for Radio

Formica is widely used by radio manufacturers for sub-panels, terminal strips, washers, bushings and small parts of various types. Some are purchased in the form of full size sheets of Formica and others in the form of finished parts with all holes perforated and ready to assemble. Some are printed in gold and silver by the Veri-Chrome process which Formica controls. *Formica tubing is used in winding inductances of all kinds* and Formica rod and heavy sheets are used for many parts that combine insulating and structural functions.

Formica for Therapeutic and X-Ray Machines

Makers of therapeutic electrical apparatus, X-Ray machines and similar devices use Formica for many purposes. Used for casetts, it combines good looks with complete freedom from metal particles which affect the image. It can be used for covering tables, chairs and similar surfaces because it is not affected by any solvents that might be used for cleaning the surfaces. Because of low power factor and hysteresis losses, it has many advantages when used in connection with very high frequency currents.



Showing the Wide Variety of Insulating Parts That Can Be Made from Formica

Formica for Telephones

The telephone industry has always been a very large user of Formica. It is used not only for insulating parts in switch boards and sending and receiving apparatus but is used also as a veneer on much of the woodwork and furniture used in connection with the telephone industry.

National Vulcanized Fibre Co.

WILMINGTON, DEL., U. S. A.

Branch Offices

NEW YORK
CHICAGO
PHILADELPHIA
BOSTON
DETROIT

LOS ANGELES
PITTSBURGH
CLEVELAND
ST. LOUIS
SAN FRANCISCO
SYDNEY

MILWAUKEE
BALTIMORE
ROCHESTER
NEW HAVEN
SEATTLE
LONDON

BIRMINGHAM
GREENVILLE
PORTLAND
TORONTO
PARIS

National Vulcanized Fibre

What do you demand of vulcanized fibre? High dielectric strength, machining quality, bending quality, compression strength, tensile strength, density, punching quality, toughness, hardness, resiliency.

In the warehouses and "seasoning" buildings of the world's largest producers of vulcanized fibre are thousands of bins, and in each bin is a different size, a different thickness, a different grade of vulcanized fibre.

Every sheet, rod and tube of National Vulcanized Fibre is scientifically built to meet the requirements of a specific use. And, as a part of our service to industry, we maintain an organization of chemists and technical experts who will help you find the exact grade of fibre best suited to your particular manufacturing or service problem.

Standard Grades and Sizes—National Vulcanized Fibre is made in eight standard grades and in three basic forms—sheets, rods and tubes. Sheets in thicknesses from .005 in. to 2 in. Rods in diameters from $\frac{3}{32}$ in. to 2 in. Tubes from $\frac{1}{8}$ in. inside diameter and up and in wall thicknesses from $\frac{1}{32}$ in. and up.

Peerless Insulation

Peerless Insulation is a very thin, very flexible fibre of very high dielectric and bending strength which through twenty-eight years has been the standard material for armature insulation and other electrical work where a thin flexible paper insulator of high efficiency is required. Peerless comes in every practical thickness in sheets and rolls of various sizes.

NATIONAL VULCANIZED FIBRE

PHENOLITE
Laminated BAKELITE

PEERLESS INSULATION

Phenolite, Laminated Bakelite

While all laminated bakelites are basically the same—a combination of bakelite resins with fibrous materials—they are comparable to alloy steels in their wide range of properties and uses. But beyond that point all laminated bakelite is different!

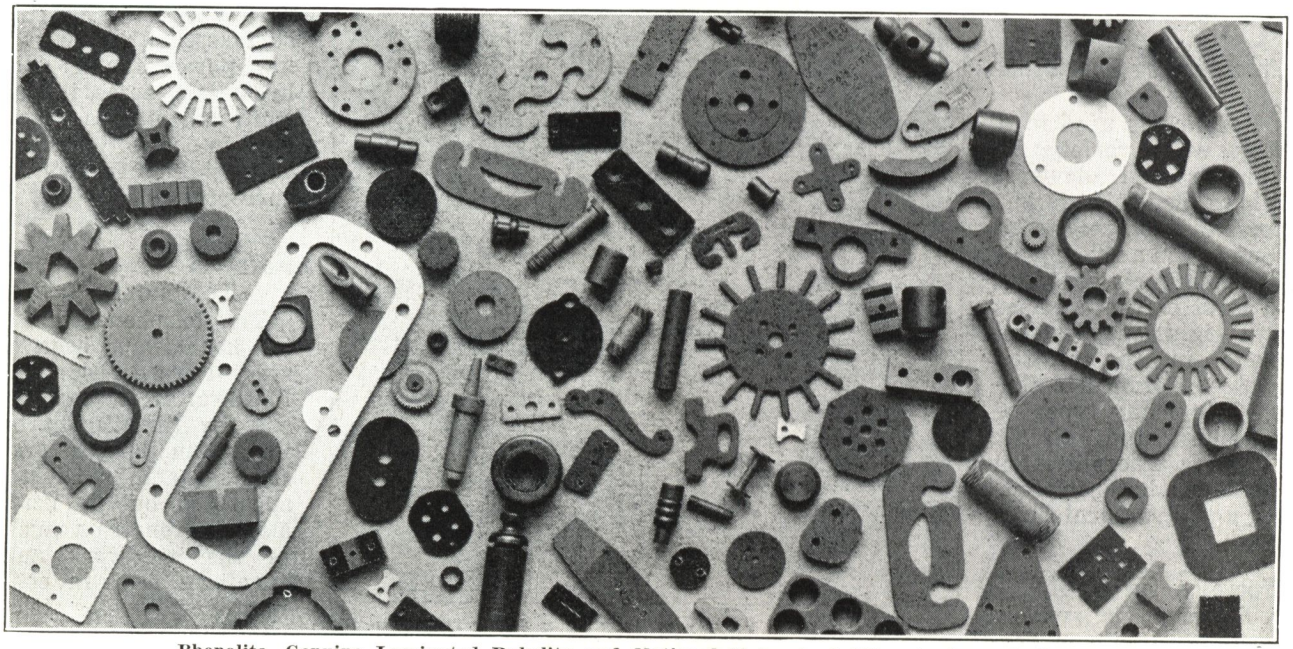
The difference may be in the selection of the fibrous base or in the density or quantity of resin; in time or temperature of "cooking" or in the pressure used in lamination . . . any one of a score of things and any slightest difference in any smallest detail in the process of manufacture produces a very marked difference in performance quality.

In our laboratory files we have recorded formulae for more than a hundred different grades and qualities of Phenolite, and each variation in grade or quality is the result of some slight change in detail of manufacture. Each is built to meet a particular demand.

Tell us what you want laminated bakelite to do for you, the conditions of production and service it must meet.

Our Service Engineering Department undoubtedly has records of similar requirements and will duplicate the formula for the one grade of Phenolite which exactly meets your specifications. Phenolite is a great deal more than a product. It is a service where *known* requirements meet *known* performance.

Standard Grades and Sizes—Phenolite is *genuine* laminated bakelite and is made in six standard grades and in three basic forms—sheets, rods and tubes. Sheets in thicknesses from $\frac{1}{64}$ in. and up. Rods in diameter from $\frac{1}{8}$ in. and up. Tubes from $\frac{1}{8}$ in. and up inside diameter and in any wall thickness desired.



Phenolite, Genuine Laminated Bakelite and National Vulcanized Fibre in Several Shapes

General Plastics, Incorporated

Plant and Executive Offices

Walck Road

NORTH TONAWANDA, N. Y.

Sales Offices

NEW YORK, N. Y. ..... 250 Park Ave. CHICAGO, ILL. ..... 9 So. Clinton St.
LOS ANGELES, CALIF. SAN FRANCISCO, CALIF.

Durez Molding Compound for Superior Molded Parts

DUREZ

Durez molding compound is a synthetic phenol condensation product to which various filling materials, chiefly wood flour or asbestos, are added for strength, appearance and molding qualities.

Because of its unusual specific, physical and electrical properties, Durez is daily and economically replacing wood, ivory, porcelain, hard rubber, glass and metals in the manufacture of such typical electrical products as:

Attachment Plugs
Brush Holder Insulation
Cable Terminals
Carbon Brushes
Commutators
Distributor Parts
Electric Drill Parts
Fuse Blocks
High Tension Insulators
Ignition Coil Cases
Ignition Insulation
Ignition Timers
Instrument Boards
Instrument Cases
Instrument Handles
Insulating Washers and Bushings
Lamps (Table)
Lamp Sockets
Lighting Fixtures
Meter Covers and Bases
Neon Signs
Phonograph Motor Parts
Pistol Grips
Radio Parts
Rheostat Bases
Signs
Spools
Strain Insulators
Supports (Bus Bar)
Switch Bases
Switchboards
Telephone Sets
Third Rail Insulation
Transformer Parts
Vacuum Cleaner Parts
Wall Plates
Washing Machine Parts
Wireless Parts

Durez is creating new business for the progressive manufacturers and custom molders who use it to improve products without fear of violating old trade customs.

PHYSICAL PROPERTIES OF DUREZ

Tensile strength	4,500 lb. per sq. in.
Compressive strength	32,000 lb. per sq. in.
Transverse strength	11,500 lb. per sq. in.
Dielectric strength	300 to 550 volts per mil
Co-efficient of expansion	.00003" per in. per deg. C.
Specific gravity	1.33
Weight per cu. in.	0.78 oz.
Water absorption (48-hr. immersion in cold water)	0.6%

Mechanical Properties of Durez

Under a pressure of approximately 2000 lb. per sq. in., and at about 360° F., Durez molds readily and hardens quickly. It compresses to about 30% of original volume, but without loss of weight.

Durez takes the form of the mold with extreme accuracy; $\frac{1}{32}$-in. tolerance is ordinary, 0.01-in. special, and with extreme care the tolerance can be held to 0.002 in.

The finished piece comes from the molds hard, non-brittle, chemically and mechanically stable, and with a clear polished finish, ready for use after filing off the fins.

The high mechanical strength makes very thin sections practical, and permits extensive use of holes, slots and metal inserts.

Durez can be accurately drilled, tapped or otherwise machined. The surface will not crack, check or scar.

Suitability for Electrical Applications

Durez is the perfect material for electrical parts and products because of its high dielectric strength (see table) and heat resisting qualities. It does not deteriorate with age and is impervious to oils, moisture, salt, steam, perspiration, alkalies, and other similar destructive agents.

It will not cold flow, making it particularly suitable for spacing rings or washers which must remain tight indefinitely.

Beautiful Finish and Colors

The lustrous surface of Durez is a permanent natural finish that requires no polishing, buffing or coating.

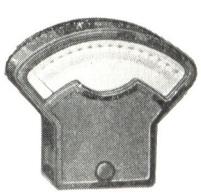
Durez Insulating Varnish

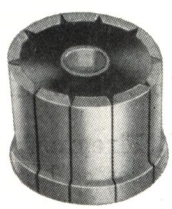
For insulating electric coils, windings, etc.; for impregnating paper, cloth, etc.; in the manufacture of laminated and sheet stock; for spraying where used as a protective coating.

Adapting Durez to Your Products

Those who wish to investigate the possibilities of Durez in their particular production plans will find the research facilities of the General Plastics Laboratory of great practical value.

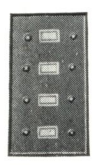
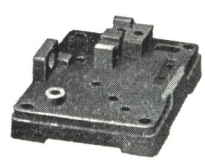
A staff of specialists stands ready to show you, not only that Durez will improve your product, but also to make any recommendations that may make your production more rapid, uniform and economical.









Durez Enters Into the Manufacture of Every Type of Electrical Machinery and Equipment, the Larger Apparatus of Industrial and Utility Companies as Well as the Smaller Appliances and Parts Produced by Mass Manufacture.

The Monowatt Electric Corporation

Manufacturers of Molded Insulation Parts and Complete Devices for Incorporation in Electrical Appliances

24 West 40th St., New York City
427 West Randolph St., Chicago, Ill.

MOLDED INSULATION

Cetec—A Cold-molded Insulation

Cetec is molded at room temperature in steel forms under high pressure. Numerous shapes, accurately molded with holes, depressions and raised portions, knurled or smooth finish, are turned out rapidly. May be molded with metallic inserts at a considerable saving. Can be buffed to a bright finish.

Following are some representative Cetec-molded parts: sockets, knobs, switch and rheostat bases and handles, cleats, fuse bodies, resistance spools, cable supports, junction blocks, heater parts, automobile switch and relay terminals and bases; radio parts, motor parts.

Monolite—A Hot-molded Insulation

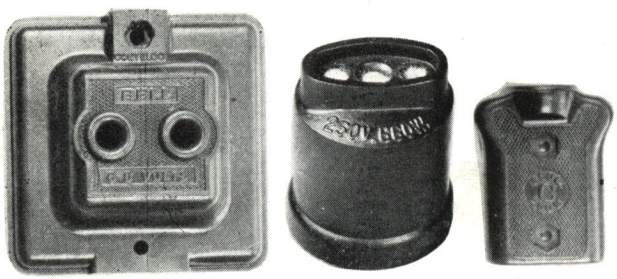
Monolite is a phenolic resin composition, worked in the same manner as Cetec except that it is molded hot. Its range of application is greater than that of Cetec, because it has greater compressive, tensile and dielectric strengths. It can be molded into the most intricate designs with the utmost precision.

Finished Monolite parts come from the mould with a very high lustre, and can be produced in the complete range of base colors.

Data Required for Quotation

(1) Describe intended use of piece and service required. (2) Quantity used per year. (3) At what rate per week is part required? (4) Are we to furnish insert? (5) Maximum voltage to which piece will be subjected. (6) Maximum temperature encountered. (7) A blueprint with tolerances on all important dimensions is required. Allow maximum variations possible as this reduces the cost. If the piece is complicated, a model must accompany the blueprint. (8) Samples of all the metal parts which go into the assembly of the finished article are required. (9) Finish desired (plain or polished, and color).

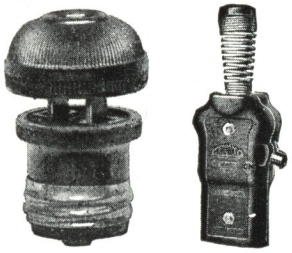
On certain standard parts we have on hand a large equipment of dies and tools. This often saves you considerable expense in tooling up.



Cetec-molded Parts



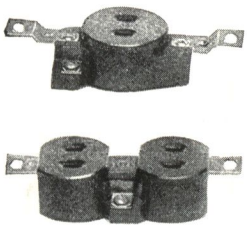
Precision-molded from Monolite



Complete Wiring Devices

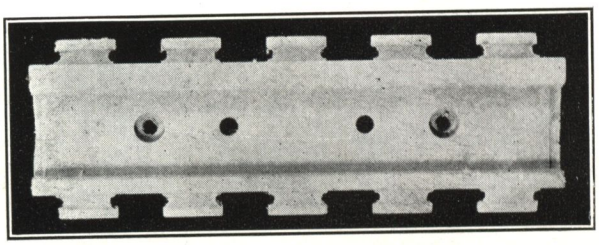
Monowatt complete wiring devices reflect our wide experience in the perfection of molded parts.

We have excellent facilities for producing, in strict accordance with electrical manufacturers' specification, a complete line of attachment plugs, caps, receptacles and the like, promptly and in any quantity. Exposed parts of Cetec or Monolite can be made in a wide range of colors as explained above.



No. 101—A Molded, Fireproof, Refractory Composition

Manufacturers who formerly cut sheet asbestos parts for use in immediate proximity with heating elements, welcomed Monowatt's development of a molded, fireproof, refractory insulation—No. 101. It possesses much more than the necessary tensile strength and will stand up under 2200° F. In price it compares favorably with asbestos. Most important, it can be molded into just the form required, thus freeing manufacturers from the design and production limitations inherent in asbestos.



Waterbury Button & Moulding Company

Moulders in All Kinds of Materials and Stampers in Metals

WATERBURY, CONN.

Cable Address: MATTATUCK

Branch Offices

NEW YORK, N. Y. ..... 1133 Broadway
BOSTON, MASS. ..... 99 Chauncy St.
CHICAGO, ILL. ..... 230 South Wells St.
PHILADELPHIA, PA. ..... 702 Denckla Bldg.
SAN FRANCISCO, CALIF. ..... 435 Mission St.
TORONTO, ONT. ..... 304 Kent Bldg.

"Megohmo" Insulation

This is a shellac composition having the following characteristics:

Tensile strength, 900 to 4000 lb. per sq. in.
Dielectric strength, 200 to 600 volts per mm.
Not affected by temperatures under 150° F.
Compressive strength, 20,000 lb. per sq. in.
Does not absorb moisture.
Specific gravity, 1.5 to 2.5.
Not affected by age.

Can be moulded to precision measurements to customers' specifications, in either a dull rubber or a high luster finish.

Not recommended for machining.

Decomposed slightly by oils, alkalis and acids.

Used extensively in the manufacture of bushings, insulators, weatherproof sockets, connector caps, socket keys, push buttons, binding post knobs, radio dials, Christmas tree husks, etc.

Bakelite and Other Phenolic Moulded Products

Our unapproached experience in moulding items from phenolic compounds has grown out of many years of satisfactory service to the country's largest users of such products.

We mould to your order in Bakelite, Durez or any other compounds such as Beatyl, Luxite, Lumarth, and so forth. Whatever compound you may select or leave to our good judgment to recommend, you may be sure that our moulders have already handled that particular compound and know exactly how to get the utmost out of it in physical and dielectric strength, exactness in dimensions and uniformity in color.

By a proper selection of compounds, we can give you practically any color you wish.

Casein Manufactured Articles

We recommend producing items in casein where high dielectric strength and heat-resisting qualities are not required, and where an unusually attractive solid or mottled color is desirable. The color range is exceptionally large.

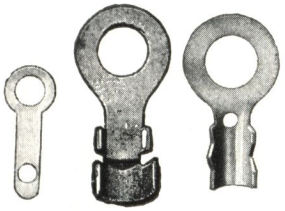
This material can be machined to your specifications, in the production of high grade boxes; for the legs, finger buttons, cover knobs and handles upon electrical appliances, etc.

Metal Stampings

We are fully equipped to manufacture metal stampings to customers' specifications, blueprints or samples, from any metal whatever that can be stamped, and in any desired finish.

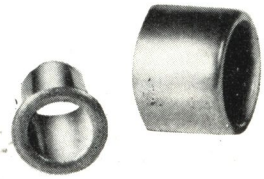
Our ability to do both moulding and metal stamping makes it quite convenient for prospective customers to obtain quotations on not only their moulded requirements, but also the metal parts which are now very often used in conjunction with the moulded article. This greatly facilitates the manufacture of articles which require precision work, not only on the moulded part, but also on the metal inserts used in conjunction. It also makes for better delivery, doing away with the delay necessary when waiting for outside products.

Our modernly equipped and expertly staffed tool room enables us to cut all dies and make all tools right in our own factory.



Terminals—A very complete line of standard wire terminals is carried in stock, including all the types and sizes in most active demand for radio and light electrical work.

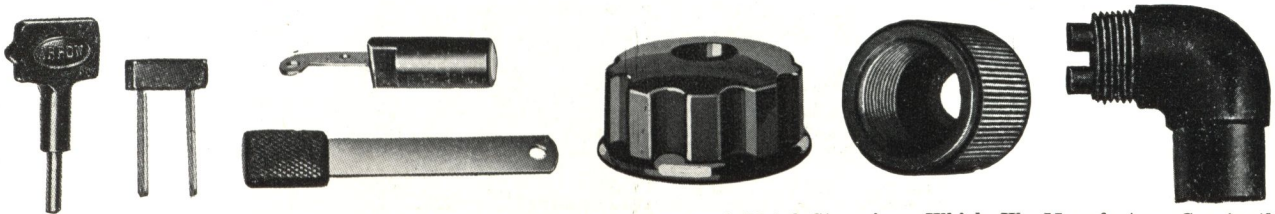
Ferrules—Ferrules in brass, steel, nickel-silver, copper or other metals and in any finish. We have tools for producing over 150 sizes, covering the standard types, lengths, diameters and gauges, for all of which we have the tools and can make quick delivery.



Eyelets—Eyelets are made in all diameters, lengths and gauges, in brass, copper, steel or any other metal, and in any finish.

We have tools for making over 300 commonly used sizes of eyelets. On most sizes, we at all times carry a substantial stock on hand. If we have not the particular size you need, we can make tools for it in very quick time.

Manufacturers Since 1812—Let Our Experience Be Your Guarantee



These Electrical Parts are Typical of Numerous Moulded Parts and Metal Stampings Which We Manufacture Constantly

THE WALLACE BARNES CO.

Manufacturers of Springs, Screw Machine Products and Stampings

BRISTOL, CONN.

What the Wallace Barnes Reputation Means to You

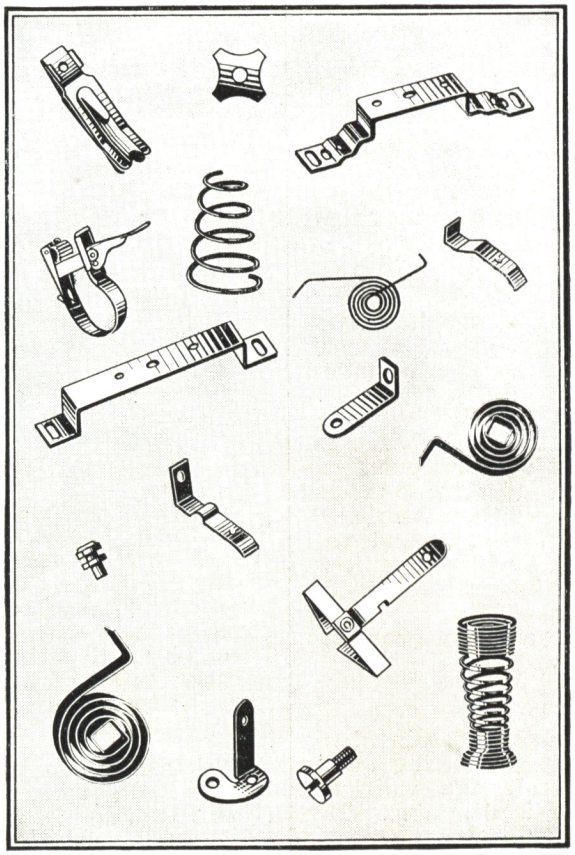
The chief interest of any spring or screw machine products purchaser centers in the organization, experience and facilities of his supplier. It cannot center in mere claims based upon a few very special products turned out by supposedly novel processes.

The number of manufacturers of diversified products who place their spring and screw machine products business unreservedly in our hands attests to our sound reputation built up during seventy years of continuous operation.

What We Make

We have a skilled, efficient organization, proper tools and tool designers, properly selected and tested materials, and precision machinery for making:

1. Any spring, of any metal, in any quantity. One year's records show the production of Barnes Springs for the following electrical equipment and appliances: washing machines, vacuum cleaners, toasters, irons, telephones, vibrators, motors, brushes, curling irons, cords, pneumatic tools, and electric light sockets, switches and switch washers.
2. Any special screw machine product up to 1¼ in. diameter.
3. Any small stamping.
4. Any small assembly.
5. Cold-rolled spring steel, annealed or tempered.



A Few Barnes-made Products For The Electrical Trade

Barnes-made Springs

Made for extension, torsion or compression duty.

Flat Springs—Many years' experience, the accumulation of thousands of tools, jigs, etc., backed by a very close control of materials, enables us to produce flat springs of any kind, of any material, and in any quantity. Most modern and carefully controlled heat treating and tempering facilities.

Brush Holder Springs—We produce the greater part of all the brush holder springs used annually in this country. Nearly all 100% tested to very close limits.

Spiral Springs—Many millions of special spiral springs are turned out annually in our plant. We are capable of filling orders for any type of spiral spring, whether automatic, lathe, or hand-wound.

Individually - tested Springs—Our force is particularly competent and expertly equipped to give spiral springs individual tests and inspections where required.

Small Stampings and Spring Washers — Made only to order, but produced automatically at lowest production costs. Work for the electrical trade a specialty.

Barnes-made Screw Machine Products

We emphasize precision and accuracy in the production of screw machine products up to 1¼-in. diameter. We offer an economical service in the secondary operations of milling, drilling, slotting, tapping, threading, polishing or any operation adapted to hand screw machines or single or multiple drill presses.

Warehouse Stocks of Spring Steel

We at all times stock several thousand tons of flat, tempered, polished and blued spring steel in a wide range of sizes from 1⅛ in. to 4 in. wide and running in thickness down to 0.003 in. Quotations promptly made to manufacturers' and dealers' specifications.

An Engineering Service of Merit

You will find that Barnes engineers advise and assist on the basis of exhaustive tests and records plus an intimate knowledge of what Barnes products must face in actual duty. Their service is fully at your disposal.

Send for our technical monthly booklet on springs "The Main Spring." It's Free.

THE WM. D. GIBSON COMPANY

Manufacturers of Springs, Wire Forms and Stampings

1800-1824 Clybourn Ave.,

CHICAGO, ILL.

GIBSON-SPRINGS

All Kinds and Sizes of Springs and Spring Materials

We have equipment on which we can produce springs from the smallest used on electrical instruments to the heaviest support springs for large turbines.

We carry in stock a full range of sizes of wire and bars in all commonly used spring materials.

Our Background of Experience

For sixty years we have been making springs in Chicago, and have an established reputation for quality.

We are familiar with the requirements of the electrical industry, as we have many large buyers of springs of this kind among the customers we serve, quite a number of whom have been with us for many years.

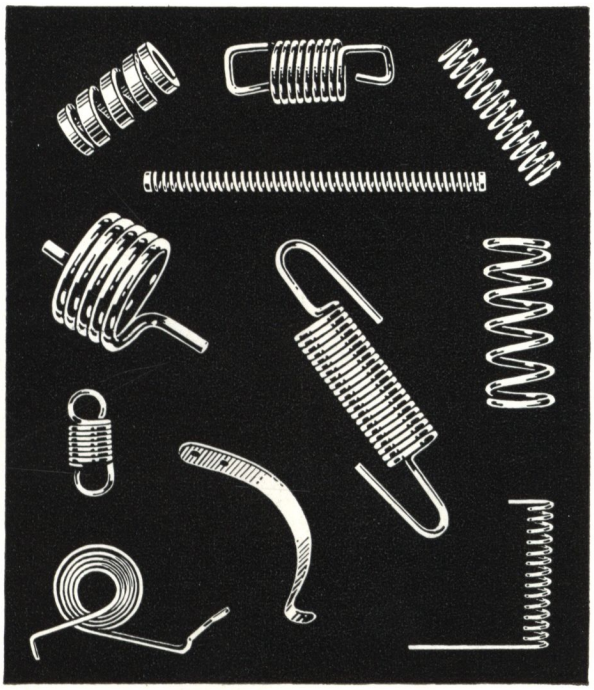
Compression Springs

We can furnish, to order, any size from the finest music wire to the heaviest ever required in electrical work.

When steel springs will not do we can furnish phosphor bronze, brass, monel metal, nickel silver or hard-drawn stainless steel.

Extension Springs

Any material listed above can be supplied also in springs of the extension type, and any style or shape of special loops or ends can be produced. We have a well equipped tool shop to prepare special fixtures for such forms when required.



Illustrating Some of the Many Types of Springs Manufactured by The Wm. D. Gibson Company

Flat Springs and Stampings

The quality production of all types of flat springs and light stampings is another of our specialties. The careful selection of materials, combined with close electrical control of heat treatment, have established for us a reputation in this field which we use every possible care to maintain.

Torsion Springs

There is no spring of this type so special, or with bends so unusual, that we cannot make it. Springs of this class often present very difficult tooling problems, and our experience along these lines has helped to reduce costs many times.

Small Orders

We make a specialty also of filling orders for small lots for experimental or emergency needs, and give prompt service on such orders.

Consult Our Engineers

Much of our present volume of business had its beginning in our ability to give prospective customers accurate and dependable engineering information on their problems. We are always ready to give service of this kind to customers or possible customers, with no obligation for such service. Our engineering information on springs is constantly being increased by research on new developments, and the benefits can be had for the asking.

Ask for Our Booklet No. 9.

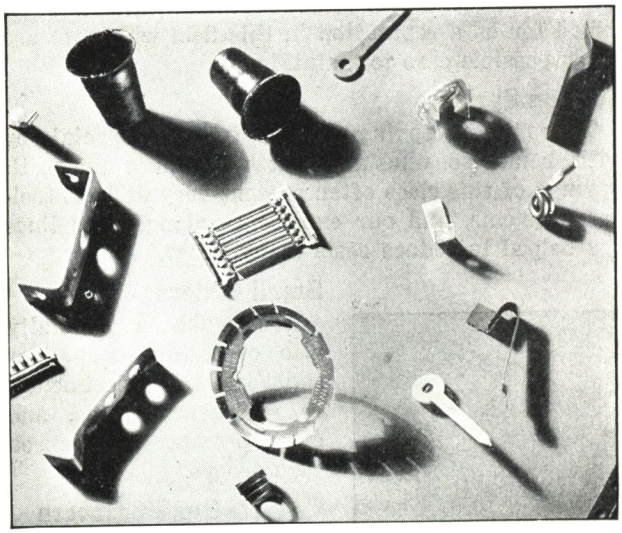
THE HUNTER PRESSED STEEL CO.

Metal Stampings and Springs of Every Type

LANSDALE, PENNSYLVANIA

Products

A modern plant with the best equipment obtainable, devoted to the manufacture of Metal Stampings, Coil and Flat Springs, and Wire forms. The Hunter plant is equipped for every detail incidental to the manufacture of high grade products. It is entirely self-contained. We do not have to go outside of our own plant and organization for dies and tools, threading, spinning, heat treating, plating and spraying or for the assembling of parts ready for installation.



Samples of Hunter Stampings Made to the Manufacturers Order

Metal Stampings

Metal forming from strip or sheet steel. Difficult deep drawing work is a specialty. Our capacity ranges from the smallest, up to a 13-in. blank from 1/8-in. material.

Coil Springs

Coil springs of every type—compression, extension, torsion and special. High production standards and precision methods insure accurate, uniform springs.

Wire Forms

Wire forms of every description are made from all the various metals.

Assemblies

We are specialists in handling assemblies of springs, stampings, and wire forms. This is a valuable time, labor and money saving service which many manufacturers utilize to advantage.

Material

Only the best of materials are used in Hunter products whether it be steel, brass, phosphor bronze, nickel silver, stainless steel, music wire, etc.

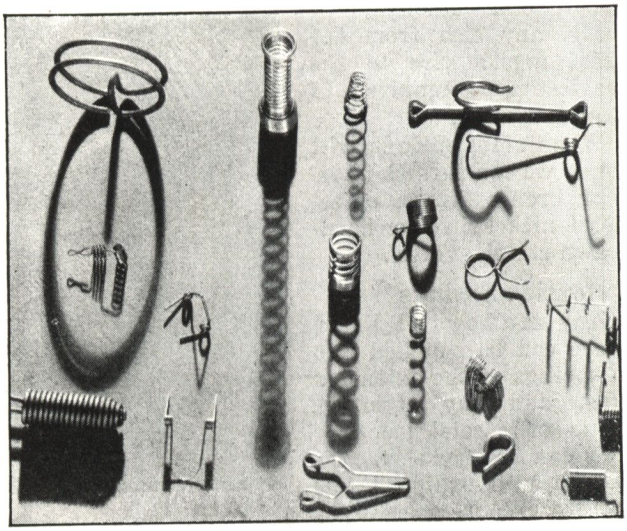
A large stock of all standard gauges of these materials is kept on hand at all times to insure quick delivery, a service for which we hold an enviable reputation in the trade.

Service

Within the Hunter Organization there are capable engineers with a fund of experience that is always at your disposal.

Consider our plant and our organization in the light of a separate department of your own business.

Let us work with you and contribute our experience and facilities toward the solving of design and production problems with the correct metal parts.



Samples of Hunter Springs for Extension, Compression and Torsion Duties

The Newcomb Spring Corporation

Manufacturers of
Wire Springs and Special Wire Shapes for Every Purpose

Bush Terminal
BROOKLYN, N. Y.

Springs for the Electrical Industry

Quality and Service Guaranteed by 44 Years of Specialization

Since 1886 the Newcomb Spring Corporation (formerly known under the names "Charles A. Cook," and the "Reliance Spring and Mfg. Company") has specialized in the manufacture of springs of every description, including special designs as well as the more common forms of flat springs, extension, compression and torsion springs. The Newcomb plant is equipped with the most modern machinery and up-to-date testing facilities and only the finest of materials are used. This, together with the long experience of the Newcomb organization assures customers of a high quality product.

Newcomb springs are used for all kinds of high grade electrical equipment including, electrical switches, valves, brush holders, circuit-closing devices, washing machines, vacuum cleaners, telephones, motors, curling irons, toasters, cord protectors, etc. *Some of the largest manufacturers of electrical equipment in the country are among users of Newcomb springs.*

Special Springs to Meet Unusual Conditions—Conditions which cannot be taken care of by the usual type of springs arise from time to time and it is at such times that we invite you to consult us. During our many years of experience a problem similar to yours may have confronted us and in our plant there are the tools and materials to turn out the spring to meet your requirements exactly—and at a considerable saving to you.

How to Order Newcomb Springs

We are prepared to fill all orders promptly and in order that there be no misunderstandings or delays, the following information should accompany all orders or requests for quotations.

Kind of Spring—State whether extension, compression or torsion spring is required.

Quality and Material—Give the quantity of springs required and state whether they are to be made of steel, brass, bronze, copper, monel metal or special alloys.

Sample—Whenever possible send sample with order or inquiry, but be sure it is fully within requirements. Attach tag with name and proper identification.

Drawings—When no sample is available, send a drawing, blue print or sketch showing dimensions and shape of spring desired.

As a further guide to assure getting the right spring, specify the use to which spring is to be put, how far it will be extended or compressed and how rapidly it must work.

Size and Type of Wire Section—Specify whether material is to be round, square or flat and give size in fractions, decimal or gauge number. If gauge number is specified be sure to state whether Steel Wire Gauge (Washburn and Moen), B. & S., etc. Extreme care should be exercised in determining these dimensions as a slight error in the sectional diameter of the wire may cause defects in the desired physical requirements of the spring.

Diameter of Spring—Specify inside and outside diameter of spring, exercising care to determine these dimensions accurately. If spring is to fit over a bolt or into a hole loosely or snugly, this information should be given together with size of hole or bolt.

Number of Coils Desired—In counting coils, it is well to count total coils from tip to tip even though some may not be active. If only active coils are counted there is always a chance for difference in opinion as to the number of active coils. When ordering compression springs also give pitch of, or space between coils.

Are Springs to Be Wound Left or Right Hand?—We wind springs either way. Springs to be worked over threaded plug or some other object which engages one or both ends, will be wound as specified.

Length of Spring—Specify overall length, also length of coil. It is also well to include height of either loop or hook.

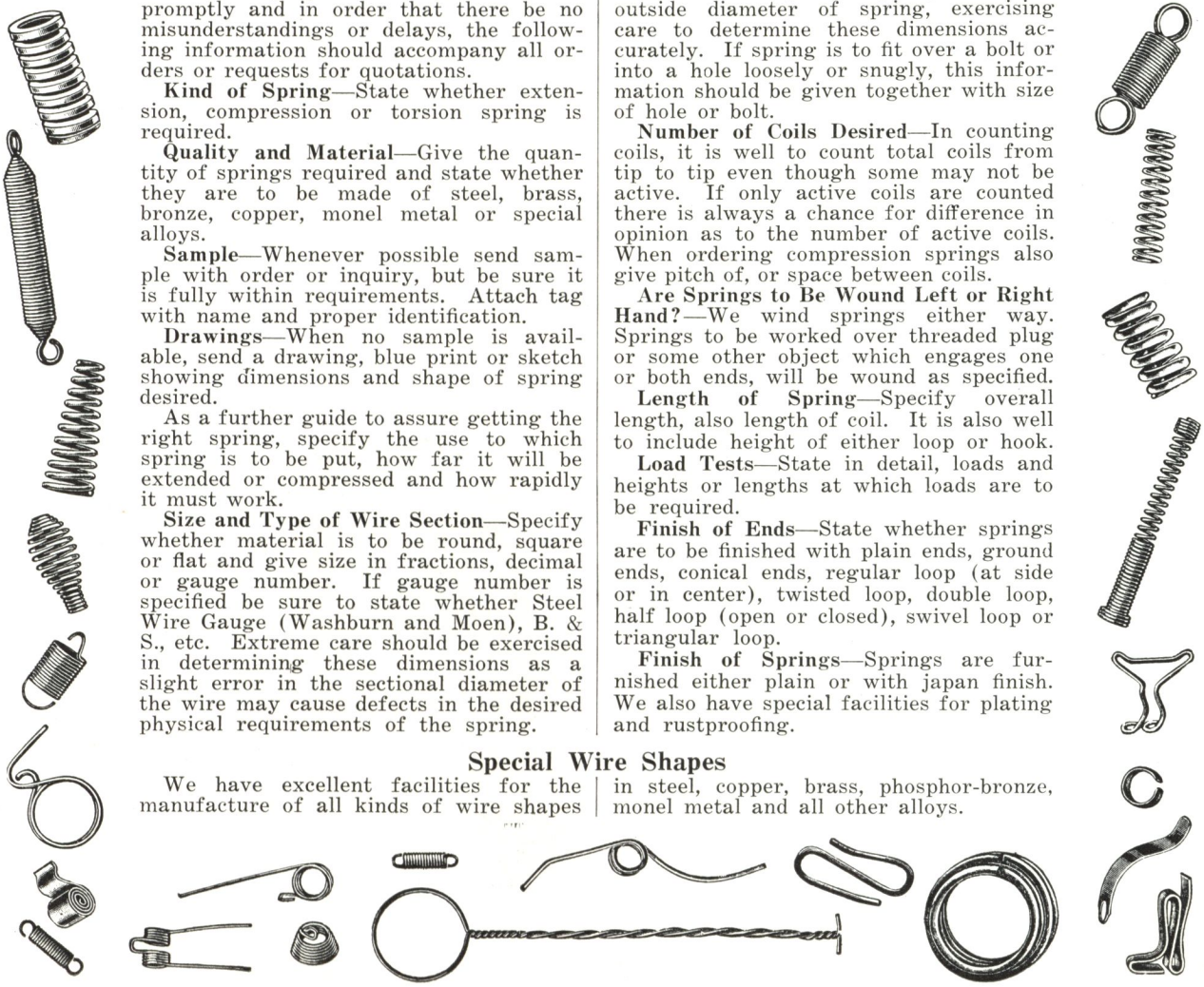
Load Tests—State in detail, loads and heights or lengths at which loads are to be required.

Finish of Ends—State whether springs are to be finished with plain ends, ground ends, conical ends, regular loop (at side or in center), twisted loop, double loop, half loop (open or closed), swivel loop or triangular loop.

Finish of Springs—Springs are furnished either plain or with japan finish. We also have special facilities for plating and rustproofing.

Special Wire Shapes

We have excellent facilities for the manufacture of all kinds of wire shapes in steel, copper, brass, phosphor-bronze, monel metal and all other alloys.



THE PECK SPRING CO.

Springs and Screw Machine Products of Every Type

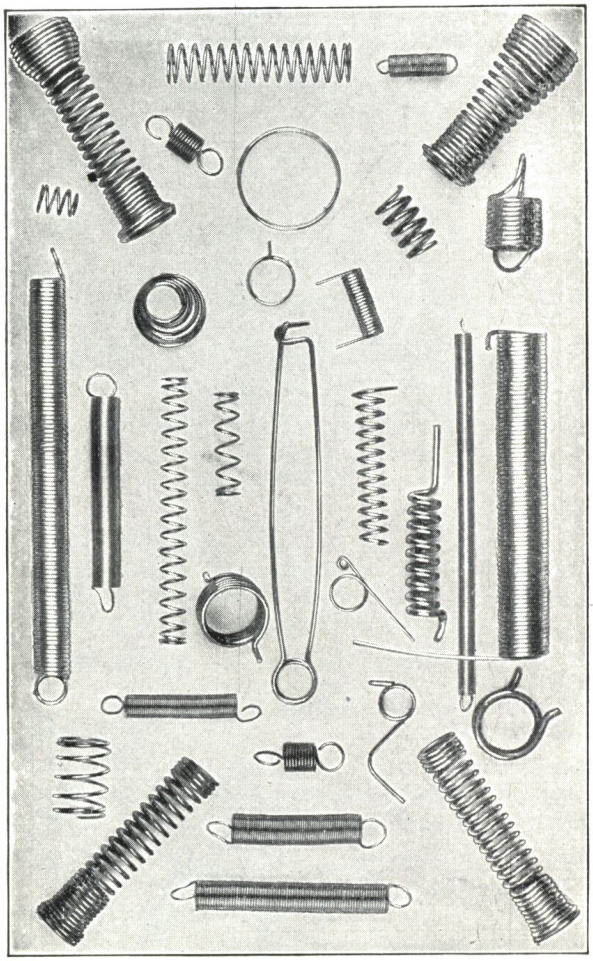
PLAINVILLE, CONN.

Spring Specialists to the Electrical Manufacturer

Most of the large electrical manufacturers today identify the name "Peck" with the best possible service to them in the supply of small springs in all standard and special shapes.

We make a very large variety of coiled or helical springs falling roughly into the three classes: Extension springs, compression springs and torsion springs. These springs are made in round wire only of the following materials: Steel wire, music wire, oil-tempered wire, brass, bronze or any alloy. Peck springs are being used today in electrical switches, valves, time recorders, brush holders, circuit-closing devices, cord protectors, and innumerable other electrical trade applications.

Hair Springs—We make hair springs with extreme accuracy of workmanship and great care in the testing and selection of materials from special steel, phosphor-bronze and other non-magnetic alloys, in flat section only and with or without collets. Peck hair springs enter into the assembly of many well-known makes of ammeters, voltmeters, speedometers, miscellaneous measuring instruments, electric gauges, clocks, etc.



Samples of Peck Springs for Extension, Compression and Torsion Duties

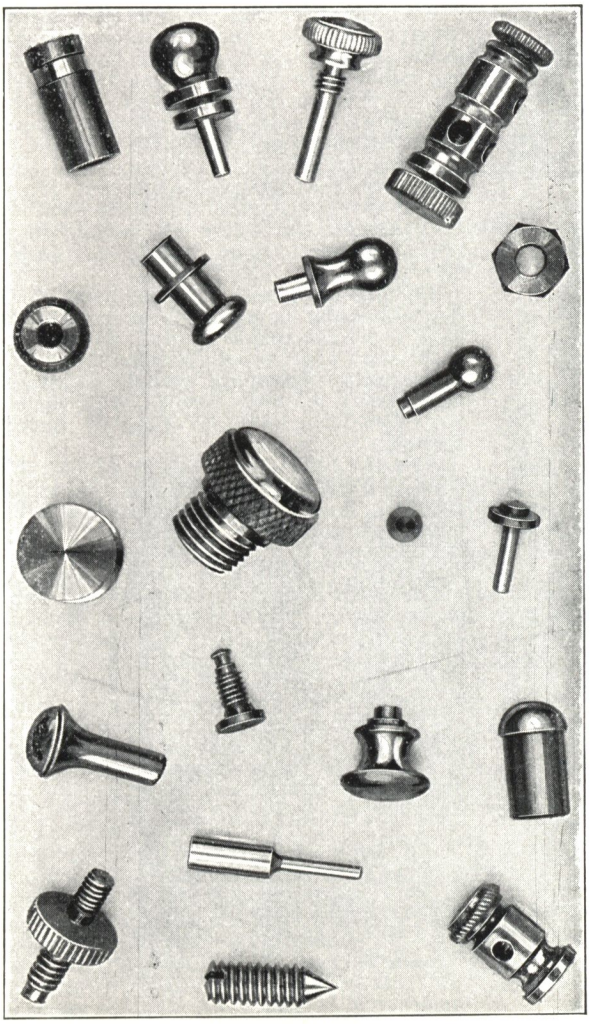
Peck Screw Machine Products

Our very complete equipment of B. & S. automatic screw machines puts us in a preferred position to solicit *all* your screw machine parts business on a strict cost and fine quality basis. You will find that we can quote you altogether satisfactory prices and make a point of fulfilling delivery promises. We can furnish screw machine products in sizes of smallest commercial dimensions up to 1¼-in. diameter, in bronze, nickel-silver, steel or special materials.

The Service We Offer

Our engineers are in closest touch with the manufacturing requirements of the trade. We have a good labor supply of experienced spring and screw machine operators working on strictly modern machining and heat treating equipment, and under up-to-date production methods.

These and other advantages are reflected in our ability to quote promptly upon receipt of blue prints or samples, quote prices that hold our customers, and maintain highest production and delivery standards.



Samples of Peck Machine Screw Products Made to the Manufacturer's Order

THE H. M. HARPER COMPANY

2626 Fletcher Street

CHICAGO, ILLINOIS

The Logical Source of Supply for BRASS AND BRONZE—BOLTS, NUTS, WASHERS

The H. M. Harper Company specializes in the manufacture of brass and bronze, bolts, nuts and washers. Practically every standard size and type of bolt, nut or washer in the non-ferrous metals is carried in stock in sufficient quantities to meet normal demands. A special order department is maintained to promptly and economically furnish the many kinds of special bolt and nut products required by the electrical industry. Our complete stock of standard items and our ability to produce special orders quickly have therefore made us The Logical Source of Supply for material in our line of manufacture.

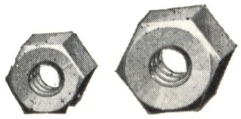
Hex Head Brass Cap Screws



Diam. of screw	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Threads per in.	20	18	16	14	13	11	10
Length	List price per hundred						
1/2	$4.70	$6.70	.....	.....	.....	.....	.....
5/8	4.90	6.90	$8.80	.....	.....	.....	.....
3/4	5.10	7.10	9.10	$12.10	$17.90	.....	.....
7/8	5.30	7.30	9.40	.....	.....	.....	.....
1	5.50	7.60	9.80	13.10	19.00	$26.10	$39.00
1 1/4	6.00	8.20	10.60	14.20	20.20	28.50	43.80
1 1/2	6.50	8.90	11.50	15.40	21.50	31.00	48.90
1 3/4	7.10	9.70	12.50	16.70	22.90	33.60	54.00
2	7.80	10.80	13.60	18.10	24.40	36.40	59.20
2 1/4	8.70	11.80	14.80	19.60	26.00	39.40	64.40
2 1/2	9.80	12.90	16.10	21.20	27.70	42.70	69.60
2 3/4	11.00	14.20	17.50	23.00	29.60	46.30	74.70
3	12.00	15.40	19.00	25.00	31.70	50.30	79.80
Diam. of head (hex.)	7/16	1/2	9/16	5/8	3/4	7/8	1
Height of head	3/16	15/64	9/32	21/64	3/8	15/32	9/16

Carried in stock for immediate shipment. Flat, round, and fillister head brass cap screws furnished promptly to order.

Hex Brass Machine Screw Nuts—Milled From Bar

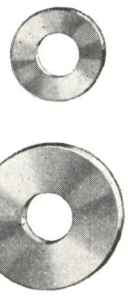


Size	Coarse thread	Fine thread	Width across flats	Thickness	Price	
					Per 100	Per gross
2	56	64	3/16	1/16	$1.05	$1.51
3	48	56	3/16	1/16	1.05	1.51
4	40	48	1/4	3/32	.75	1.08
5	40	44	5/16	7/64	.75	1.08
6	32	40	5/16	7/64	.75	1.08
8	32	36	11/32	1/8	.90	1.30
10	24	32	3/8	1/8	1.20	1.73
12	24	28	7/16	5/32	1.50	2.16
1/4	20	28	7/16	3/16	1.95	2.81
5/16	18	24	9/16	7/32	4.20	6.05
3/8	16	24	5/8	1/4	5.70	8.21

Hex brass machine screw nuts milled from the bar are perfectly made and are much more accurate than the commercial type of stamped nut. Carried in stock for immediate shipment.

Bolts, nuts, and washers manufactured to order in brass, copper, naval brass, tobin bronze, phosphor bronze, muntz metal, everdur, monel metal, stainless steel and aluminum.

Brass Washers



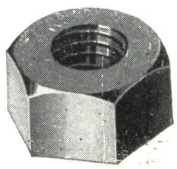
Complete stock of brass washers in all listed sizes. Sizes other than listed are special and made to order. Packed in one-lb. packages if specified.

BRASS WASHERS

Screw size No.	Bolt size	Outside diam.	Inside diam.	Thickness	List price per lb.	Approx. No. per lb.
3	.....	1/4	.105	.020	$2.00	4030
4	.....	9/32	.119	.025	1.50	2560
6	.....	5/16	.147	.028	1.25	1950
6	1/8	3/8	.147	.032	1.00	1135
8	.....	3/8	.172	.032	1.00	1190
8	5/32	7/16	.172	.036	.90	740
10	.....	7/16	.200	.036	.90	810
10	3/16	1/2	.200	.040	.80	500
12	.....	1/2	.227	.040	.80	525
12	7/32	9/16	.227	.040	.80	400
14	.....	9/16	.260	.040	.80	425
14	1/4	11/16	.260	.051	.75	208
16	.....	5/8	.282	.040	.75	340
16	.....	3/4	.282	.064	.75	134
18	.....	11/16	.310	.051	.75	227
18	9/32	7/8	.310	.064	.75	100
20	.....	3/4	.337	.064	.75	146
20	5/16	7/8	.337	.064	.75	103
24	.....	7/8	.391	.064	.75	108
24	3/8	1	.391	.081	.70	61.5
30	7/16	1 1/8	1/2	.081	.70	51.6
34	1/2	1 1/4	9/16	.091	.70	37.5
	5/8	1 1/2	11/16	.102	.70	23.2
	3/4	1 7/8	13/16	.114	.70	13.0
	7/8	2 1/4	15/16	.128	.70	7.7
	1	2 1/2	1 1/16	.144	.70	5.7

Semi-Finished U.S.S. Hex Brass Nuts

Diam. of bolt	No. of threads	Width across flats	Thickness		Price per 100
			Regular nut	Jam nut	
3/16	24	3/8	3/16	5/32	$1.40
1/4	20	1/2	1/4	3/16	2.40
5/16	18	19/32	5/16	7/32	3.20
3/8	16	11/16	3/8	1/4	5.20
7/16	14	3/4	7/16	9/32	7.20
1/2	13	7/8	1/2	5/16	9.60
9/16	12	15/16	9/16	11/32	15.00
5/8	11	1 1/16	5/8	3/8	17.00
3/4	10	1 1/4	3/4	7/16	27.00
7/8	9	1 7/16	7/8	1/2	45.00
1	8	1 5/8	1	9/16	68.00
1 1/8	7	1 13/16	1 1/8	5/8	120.00
1 1/4	7	2	1 1/4	3/4	145.00
1 3/8	6	2 3/16	1 3/8	13/16	180.00
1 1/2	6	2 3/8	1 1/2	7/8	230.00



All listed sizes carried in stock, also SAE thread and Tobin bronze nuts. Special sizes furnished promptly to order.

Other Products Carried In Stock

Brass Machine Bolts
Brass Carriage Bolts
Brass Lag Screws
Brass Set Screws
Threaded Brass Rod
Brass Thumb Screws
Brass Studs
Knurled Brass Screws and Nuts
Brass Wing Nuts
Brass Cap Nuts

Write for Complete Catalogue

The Progressive Manufacturing Co.

THE HOUSE OF SERVICE

Specialists in Machine Screws and Cold Headed Work

52 Norwood Street

TORRINGTON, CONN.

Progressive Machine Screw Service to Electrical Manufacturers

A desirable source of upset products supply, intelligently serviced, is an invaluable asset to any electrical manufacturer. The reputation of this company for producing uniformly superior products at greatest sales and service efficiency amply protects your own product at every point where Progressive parts are employed.

Trained Personnel—Every representative in our organization is an engineer whose experience has been gained by working up from actual shop production. They are familiar with the modern trends and needs of the electrical industries, and can be relied upon to recommend the standard parts or design special parts you may need.

Service on Deliveries—The keynote of our success in retaining old customers is the remarkable promptness of deliveries. We have been years in developing a perfect factory routine for handling orders exactly according to schedule. We do not ask for or need any allowance for inability to deliver as promised. Our system of stocking materials and of routing work through the plant takes into account all likely contingencies. When we say we will deliver, customers can rely on its being done.

Cost-plus Price Basis—Our prices are based absolutely on costs plus a fixed manufacturing profit determined by an accurate cost system developed out of many years' experience. Our prices, therefore, are not the result of guesswork, but are equally just and fair to our customers and ourselves.

Whether you have us estimate on your work before placing the order or simply turn it over to us, as most of our old customers do, the result will be the same. You run no risks for the reason that we effectively guarantee our products and make good any defect whatever in goods or service.

Promco Interchangeable Bolts and Nuts

There is but little difference in cost, but a material saving in time and waste, in using Promco Interchangeable Bolts and Nuts. Every nut is tapped absolutely central, and all parts are strictly interchangeable.

Bolts and nuts are of iron or brass, made to American Screw Thread Standards, in all sizes from No. 2 to ⅜-in. and in all lengths from ⅜ in. to 3 in.

Special Parts and Upset Work

Our service is as notable in the making of special screws and difficult headed parts, as it is in the standard lines.

A great many parts now made on screw machines can be headed at a great saving in cost with better performance. Our equipment for producing work by the upset process is the most modern of its kind. The most difficult and delicate operations, such as accurate shouldering, are a part of our daily production.

We have developed many special parts for electrical manufacturers at great savings in costs and simplification of their assemblies. Submit your samples or outline ideas for intelligent advice and prompt action.

Rivets and Studs

We do not stock rivets and studs, but supply them by the millions from all grades of stock, made to order only. We make any size from .050-in. to ½-in. diameter.

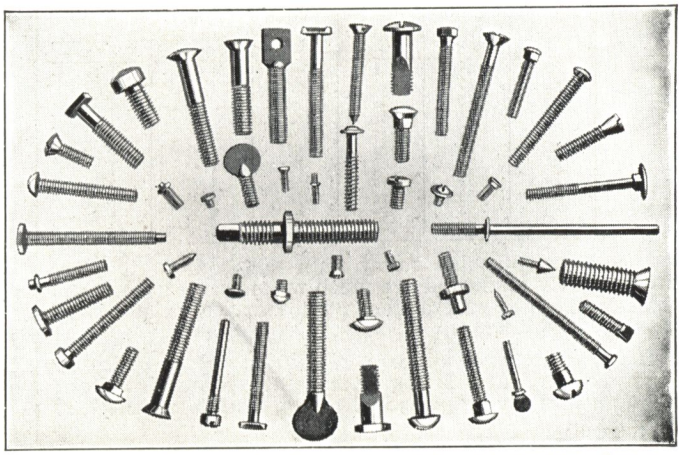
Standard Machine Screws

We carry at all times a very large and complete stock of iron and brass machine screws, American Screw Thread Standard, Coarse Thread Series, sizes No. 2 to ½-in., 56 to 13 threads per in. and in all lengths from ⅛ to 3 in. Screws of the Fine Thread Series can be made upon short notice.

Square and Hexagon Machine Screw Nuts

American Screw Thread Standard. Made of brass or iron; hexagon nuts in coarse and fine threads, sizes No. 2 to ¼-in.; square nuts in coarse and fine threads, sizes No. 2 to ⅜-in.

Our hexagon cold-pressed nuts are of exceptional quality. Each nut seats perfectly and is tapped absolutely central.



Specimens of Progressive Standard and Special Machine Screw and Upset Work

SCOVILL MANUFACTURING CO.

Member Copper and Brass Research Assn.

WATERBURY, CONN.

ATLANTA
BOSTON
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
LOS ANGELES
NEW YORK
PHILADELPHIA
PROVIDENCE
SAN FRANCISCO

In Europe:—**THE HAGUE, HOLLAND**

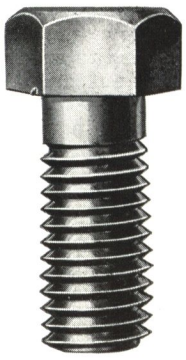
The Scope of Scovill

Scovill offers an unusual service to concerns who use metal or fabricated metal products. During 128 years of manufacturing experience, Scovill has developed an almost unlimited capacity for the production of parts or finished articles of brass, bronze, nickel silver, steel, aluminum and other metals. Scovill can take over your entire manufacturing problem and furnish the goods completely fabricated and packed ready for shipment to your customer or can produce individual parts or assemblies to fit into your production schedule. In either case, the services of the Scovill mechanical, electrical and chemical laboratories and a capable art staff are available for development work and to aid you in the solution of your problems.

Competent sales organizations and warehouses are maintained at distribution centers.

Cap Screws

The Scovill Screw Department produces huge quantities of steel and brass cap screws. The heads are uniform in size, finely finished and will not crack or break off. The threads are carefully formed and held to the tolerances of the American Standard Class 3 fit. Their unusually high and uniform tensile strength provides a factor of safety far in excess of any strain they will ever encounter. A stock of 15,000,000 cap screws at Waterbury and Chicago assures prompt service in filling orders on standard sizes.



To those who stock cap screws the Scovill Screw makes a special appeal. The sturdy, durable, clearly labeled cartons make easy selections of sizes possible.

Machine Screws

Machine screws in brass and steel are manufactured in large quantities. We are particularly interested in screws with special and difficult heads. In some cases our engineers have been able to produce special headed screws which have reduced manufacturers' assembly costs considerably. Scovill engineers will be glad to go over your screw problems with you and aid in their solution.

Scovill Special Spring Bronze (SSS)

A bronze spring stock developed for use where unusually long life is required or where the spring action is severe. Large quantities of this bronze are used for electrical snap switches.

Scovill Cup Drawn Admiralty Condenser Tubing

This condenser tubing is made from pure virgin metal to the U. S. Navy specifications. Composition: Copper, 70% min.; Tin, 0.9 min.; Iron, 0.06 min.; Lead, .075 max.; and Zinc, remainder. In the manufacture of condenser tubing by the cupping process, discs are blanked from wrought metal, the discs carefully inspected on both sides and then cupped on powerful presses. This is the only condenser tube manufacturing process which allows the inspection of the inside and the outside of the tube with equal facility. After the cupping operation, the shells are annealed, pickled, and then drawn and redrawn until the finished size is reached. Accurately controlled annealing operations and pickling between each operation insure a tube free from strains. After being tested under both water and air pressure, the tubes are again carefully inspected before being shipped.

Scovill Cup Drawn Admiralty Condenser Tubing will give very satisfactory service in installations where the circulating water is contaminated with acids, sewage or other impurities which reduce the life of ordinary tubing.

Products Made to Order Only

Metal Parts for Electrical Goods—

Screw Machine Products
Special Headed Products
Brass Forgings
Small Stampings
Special Screws
Radio Condensers
Screw Shells
Socket Shells and Caps
Pendants
Special Metal Radio Parts

Products Carried in Stock

Brass Mill Products
Cap and Machine Screws
Snap Fasteners
Hinges
Seamless Handle Ferrules

Literature Available

The products manufactured in the Scovill plants are so diversified that it is not practical to issue a general catalog. Scovill, however, does issue booklets on individual articles and classifications, and will be glad to send them upon request.

DOEHLER DIE CASTING CO.

General Offices and Assembling Division

386 Fourth Avenue, New York, N. Y.

Plants

BROOKLYN, N. Y. POTTSTOWN, PA. BATAVIA, N. Y. TOLEDO, OHIO LOS ANGELES, CALIF.

Products

Die Casting in aluminum, zinc, tin and lead alloys, "Do-Di" finished brass castings and permanent mold aluminum castings.

Doehler Die Castings

In the production of Doehler Die Castings only virgin metals are used—their purity and conformity with specifications being checked at all stages of the process. The volume of this company's business as the world's largest producers of die castings, secures for it the best of quality, price and delivery in raw materials—each shipment of which is carefully tested as to quantity and purity.

Doehler dies are the work of the most expert and experienced die-cutters—and it is the policy of the company voluntarily to replace worn dies without cost to the customer, that uniformity and accuracy may be maintained.

Doehler die casting machines and methods are the result of years of specialization, and assure the maintenance of the Doehler standards.

The company maintains fully equipped laboratories manned by a staff of engineers, chemists and metallurgists—constantly engaged in research and development work and in the study of customers' problems. Doehler Die Castings are thus made right—mechanically, physically and chemically—for the specific purpose for which they are intended.

Aluminum Die Castings

"Alniloy" is the name given to the patented alloy used by the Doehler Die Casting Company in the production of Doehler Aluminum Die Castings. This alloy contains over 90% of aluminum, alloyed with copper, nickel and silicon. "Alniloy" will take a fine polish, and retain this polish under ordinary atmospheric conditions. Other Standard Aluminum Alloys to meet service requirements are available.

Zinc Die Castings

In the manufacture of Doehler Zinc Die Castings three standard alloys are used.

Doler-Zink—Doler-Zink is the name given to the zinc base alloy generally used by the Doehler Die Casting Company where a zinc alloy having a tensile strength of 40,000 pounds per square inch, and about 1 per cent elongation is required.

Dura-Zink—Dura-Zink castings are recommended where castings are to be used under varying temperature conditions. Dura-Zink retains its original strength, shape and size under varying temperatures. The tensile strength of Dura-Zink is 28,000 pounds per square inch, and the elongation 2 per cent.

Nichro-Zink—Nichro-Zink is recommended where excessive strength is not required. Nichro-Zink has a tensile strength of 18,000 pounds per square inch, but will retain its original strength, shape and size under varying temperature conditions. Nichro-Zink can be soldered readily.

Tin and Lead Die Castings

The Doehler Die Casting Company manufactures die castings from all commercial alloys of tin and lead alloyed with copper, antimony, etc. We invite your inquiries and your specifications.

"Do-Di" Finished Brass Castings

No one yet has succeeded in making brass or bronze die castings commercially. In "Do-Di" finished brass castings this company has achieved results closely approaching the economies of the die-casting process.

"Do-Di" castings have smooth surfaces, sharp outlines, a homogeneous physical structure, and can be cast with holes to a degree of accuracy that can be had in no other brass casting. Quantity production to limit measurements with unequaled quality and uniformity is an accomplished fact working far-reaching economies.

Permanent Mold Aluminum Castings

The Doehler Die Casting Co. has specialized in permanent mold castings for over 20 years.

Our research work and commercial practice covers any known method of casting metals that will tend to reduce machining, polishing, assembly and other manufacturing costs.

On the basis of this experience we solicit your inquiries on all non-ferrous castings.

Delivery and Service

The Doehler Die Casting Company maintains five separate and fully equipped die casting plants, under one policy and management. This affords Doehler customers the advantage and economies of factory facilities not elsewhere to be had—beside the very important consideration of having four separate sources of supply instead of one. Circumstances might conspire to stop production of one plant, but not of four, therefore, production could be taken up by the unaffected plants. Thus, Doehler facilities not only assure delivery as per schedule in any quantity under normal conditions—they safeguard it even against emergency conditions.

Doehler Service to customers includes scientific research, the benefits of an unequal experience, the facilities of the largest production capacity, and an ability to meet all requirements and conditions.

Literature and Estimates

Our new booklet entitled "Doehler Die Castings" will be sent on request.

Estimates will be cheerfully submitted from drawings, models or samples, and Doehler engineers will be glad to work with prospective users of die castings.

Newton Die Casting Corporation

146 Munson St.

NEW HAVEN, CONN.

Products

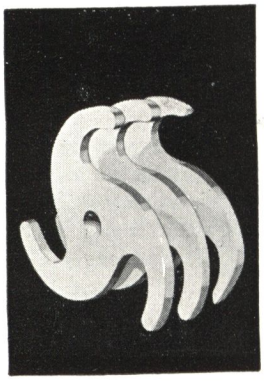
Newton Die Castings are made in all die-castable alloys—aluminum, zinc, tin and lead base alloys, any of which may be varied in composition to suit the service requirements of each type of casting. Special alloys or alloys not generally used in the die casting industry will be developed upon request. Virgin metals are used exclusively in all Newton alloys.

NEWTON NEW HAVEN

Trade Mark

Metal Control

From the initial receipt of raw materials and throughout each stage of their progress through our plant, Newton metals and alloys are subjected to very precise periodic checking to insure strict adherence to specifications for each lot of castings.



Physical Characteristics

Accuracy—Each Newton die is made by thoroughly experienced die sinkers who work in conjunction with and under the supervision of an experienced staff of technical men. Great care is used to produce dies which will retain their accuracy for as long a period as is reasonably possible to attain. This is your assurance of perfect interchangeability for a relatively great quantity of castings. Die replacements are made in accordance with customary die casting practice.

Finish—Strict adherence to specifications by systematic checking and inspection assures uniform casting surfaces and minimum subsequent finishing operations.

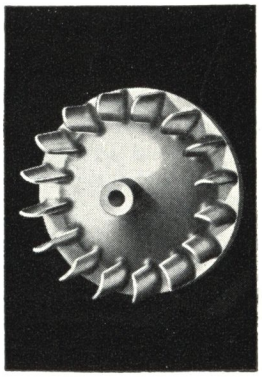
Uniformity—Where customer presents specifications we adhere to those specifications. Where the metal is left to our discretion we use alloys proven satisfactory for similar types of castings, or, we can develop new alloys to suit the service requirements of your product.

Manufacturing and Assembly

In addition to our service as die casters, we also maintain an organization for light manufacturing and assembling parts or products in which Newton Die Castings are used. This department, under competent production men, offers its services for machining, plating, polishing and assembling. The cost of this service is frequently more economical than the cost of performing similar operations in the purchaser's plant.

Technical Assistance

This company maintains an able staff of engineers and technical men whose specialized knowledge of dies, alloys, and methods of working and finishing die castings is at your service. They will gladly cooperate with you in developing new die casting applications or new ways to better your present die castings.



The Newton Plant

This company maintains but *one* plant, of sufficient size and with adequate equipment and shipping facilities to produce and deliver die castings on a very large scale. Being under direct and continuous supervision, the Newton organization is frequently able to produce economies otherwise impossible.

Quotations

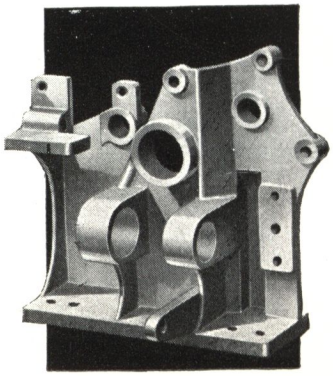
Quotations and estimates will be promptly submitted upon receipt of drawings, models or samples—all matters being held in strict confidence as requested.

Precision

The Newton plant is complete in every respect. Its tool room is among the best and is operated by a carefully selected personnel competent to originate and maintain extremely accurate dies.

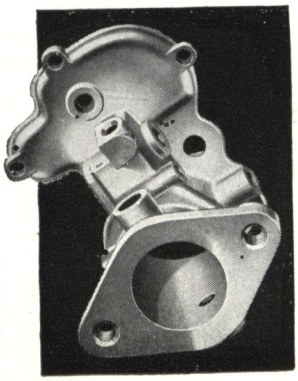
Uniformity

Newton supervision and inspection methods permit no deviation from the required standards for any type or lot of castings. Uniformity of metal and dimensions is assured at all times.

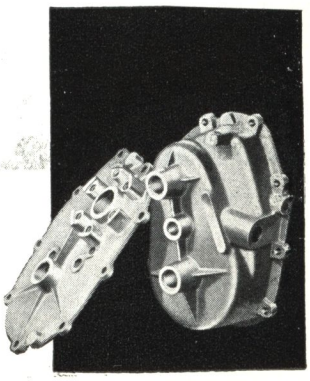


Left: When machine frames are die cast much machine work is obviated and parts are perfectly interchangeable.

Right: Die castings are admirably adapted to unusual shaped pieces.



Right: Gear cases, pump housings, motor housings, impellers, brush holders and many similar parts can usually be more easily, accurately and economically produced by die casting than by any other means.



PRECISION CASTINGS CO., INC.

Syracuse, N. Y. Cleveland, Ohio

Products

Die castings in Aluminum and Zinc. Made from virgin metals of the highest grade. Precision alloys have been developed as a result of years of experience of one of the oldest companies in the die casting trade. Our range includes alloys suitable for many varied requirements such as strength, rigidity, hardness, resistance to corrosion, ductility and smoothness of surface.

Personnel and Equipment

The main plant is located at Fayetteville, a suburb of Syracuse, and employes about five hundred workers including experienced die-cutters and an engineering staff that has been developed to a high point of efficiency through years of experience with die casting problems.

We have recently completed, at Cleveland, Ohio, a new plant that is one of the best equipped and most thoroughly modern establishments in the country. This branch is now in operation and forms a valuable adjunct to the Syracuse plant assuring the customer prompt service and offering him greater facilities for taking care of abnormal or extraordinary increases in his requirements.

Advantages of Die Castings

Castings produced by this method can be held to such precise limits and can be made so close to the specifications of the finished piece, however intricate and complicated it may be, that much time and labor lost in finishing and much capital invested in machinery by the customer is thereby saved. Frequently a part that formerly was made up as an assembly of two or more pieces can be die cast in one piece, thus insuring greater strength and rigidity and eliminating the cost of assembly.

Range of Work

Precision castings range in size from less than one half an inch in length to nearly three feet, and in weight from a mere fraction of an ounce to several pounds.

Engineering Service and Quotations

At request from you, we can have a capable engineer, experienced in all phases of die casting work, at your plant on very short notice. He can furnish you with quotations and assist you in re-design work or help you solve any problems that may arise incidental to die casting.

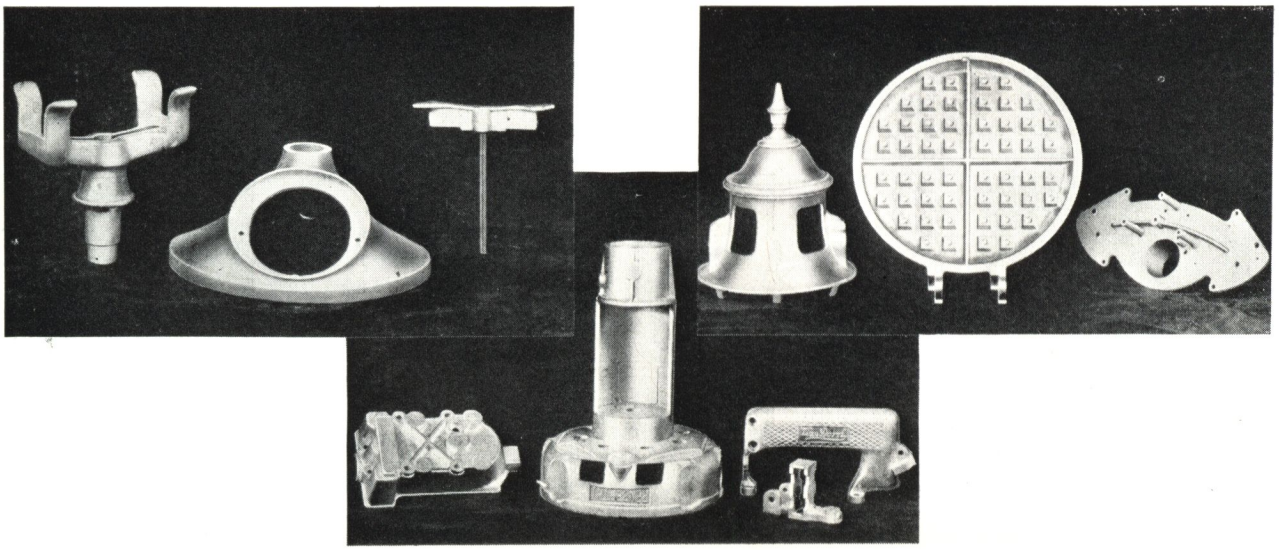
Our engineering staff will give all requests by mail prompt attention and furnish accurate quotations on both dies and castings from blue prints or samples submitted.

Dies

Dies are manufactured in our plant by expert and experienced die cutters from the finest grades of steel to the exact specifications furnished by the customer. They are hardened in our own heat-treating room under supervision of a competent metallurgist and every care is taken to insure their long-life and to prevent them from warping.

Delivery

With the additional facilities offered by our Cleveland plant, we are equipped to take care of any emergency demands for service from our customers, as well as their ordinary delivery requirements, with promptness and dispatch.



EMPIRE STEEL CORPORATION

Manufacturers of Electrical and Other High Grade Sheets

Executive Office

MANSFIELD, OHIO

Sales Offices

NEW YORK, N. Y.
PHILADELPHIA, PA.
CLEVELAND, OHIO
INDIANAPOLIS, IND.
CHICAGO, ILL.
DETROIT, MICH.
ST. LOUIS, MO.

Plants

MANSFIELD, OHIO
ASHTABULA, OHIO
CLEVELAND, OHIO
NILES, OHIO

Empire Electrical Sheets Can Raise Your Quality Limits

The selection of better materials for punchings, laminations, etc., is one of the most important improvements you can make in a product that is well-designed and carefully manufactured.

Empire Electrical Sheets are better, and supply the extra quality that stamps your product as *better than ordinarily good.*

Only absolutely clean open hearth steel enters into these sheets. It is free from sonims and slag; all chemical impurities and physical defects are reduced to the practical minimum.

These sheets are further refined after cold rolling and given correct grain structure by very careful and uniform annealing.

The finished sheets possess:
Extremely high permeability.
Very low hysteresis loss.
Comparative freedom from oxidation.
Uniform texture.
Reliable machining properties.



Before Annealing



After Annealing

Microphotograph of an Empire Electrical Sheet

Better Punchings Made Possible

The uniform structure and exact properties of Empire Electrical Sheets make much better punchings possible. Less burrs and cleaner slots are obtained. These improvements make for a much higher stacking factor and a cleaner, more accurate assembly.

Less Die Grinding Necessary

Empire Electrical Sheets, being so free from slag, iron oxide scale and other impurities, do not dull and wear down dies unduly. This advantage is directly reflected in:

More continuous operation.
Larger production per die.
Easier workmanship.

Lower Costs Realized

The cumulative savings realized by use of Empire Electrical Sheets, mount up to a total that provides a convincing argument for their exclusive use where magnetic punchings are requested.

The factors that enable them to lower your manufacturing costs are:

Fewer defective and wasted laminations—a saving in material as well as in labor of inspecting.

Uniform assembly—no tedious, expensive filing or "truing up" of slots.

Longer die life—lower maintenance and replacement costs.

Better products of better appearance and operation.

Grades of Empire Electrical Sheets

Polelec—A good, clean sheet steel for pole pieces of d-c. machines only.

Armelec—"Armature" grade, a low-grade silicon sheet good for auto starters, etc.

Manelec—"Empire Electrical" grade, a low-core-loss, high-permeability, non-aging silicon steel excellent for fractional hp. and small-size motors.

Motelec—"Motor" grade, a higher silicon grade made especially for high-grade, moderate-size motors. Low losses, good permeability, non-aging.

Dynelec—"Dynamo" grade, a still higher grade for high efficiency motors and generators. Contains the highest amount of silicon safe for high-speed rotating machines.

Tranelec A—"Transformer" grade, good for low-frequency transformers.

Tranelec B—"Transformer" grade, good for lighting or power transformers.

Tranelec C—"Transformer" grade, for high efficiency transformers where the best material is required.

Prompt Response to Inquiries

Write us regarding your requirements, giving facts as to service demanded, operating conditions, etc. Our response will be prompt and conclusive.

We will send samples of Empire Electrical Sheets, and invite the most searching tests.

FOLLANSBEE BROTHERS COMPANY

Specialists in the manufacture of Electric Sheets for the Laminated Structure of Magnetic Circuits

General Offices

PITTSBURGH, PA.

Mills

FOLLANSBEE, WEST VA., AND TORONTO, OHIO

District Offices and Warehouses

NEW YORK CHICAGO DETROIT LOUISVILLE INDIANAPOLIS MILWAUKEE
ROCHESTER BUFFALO CLEVELAND NASHVILLE MEMPHIS PHILADELPHIA CINCINNATI

Follansbee Forge

REG. U.S. PAT. OFF.

There is a "Follansbee Forge" Electric Sheet for Every Electric Sheet Requirement

Follansbee Brothers Company were among the pioneers in the manufacture of electric sheets, and recognizing that engineers required guaranteed data, we very early began the study of these materials in a scientific systematic way, installing modern control of our manufacturing methods. Complete chemical, metallurgical and research departments are constantly engaged in safeguarding quality.

Our steel is made in open hearth furnaces of thirty-five ton capacity, permitting better control than is possible in the larger furnaces ordinarily used. This close control results in a more homogeneous product and reduces to a minimum slag occlusions and the segregation of chemical impurities.

Our ingots are forged to billets by the exclusive Follansbee Forge Process imparting properties to the steel that are later reflected in the performance of the sheets.

Grades of "Follansbee Forge" Electric Sheets

Power Transformer Steel—Non-aging. Specific gravity, 7.5. For high grade transformer work. Exceptionally low exciting current made possible by our exclusive Forging Process.

Special Dynamo Steel—Non-aging. Specific gravity, 7.5. For high efficiency motors and certain transformer requirements.

Special Motor Steel—Practically non-aging. Specific gravity, 7.5. For induction motors.

Improved Electric Steel—Practically non-aging. Specific gravity, 7.7. For a wide variety of uses.

Armature Steel—Ages slightly. Specific gravity, 7.7. For the ordinary and less particular requirements.

Special Radio Sheets—For audio transformers, power packs, etc.

Special Requirements — Designers of electrical apparatus sometimes require material of a special nature. We are at all times glad to discuss these problems and to lend our assistance.

General Characteristics of "Follansbee Forge" Electric Sheets

Clean silver-grey finish.
Tight paperlike scale or scale free.
Flat even surface.
Clear cut punchings and shearings.
Uniformity of structure.
Assemble solidly.
Economical on dies.
Uniform losses insuring a uniform product.

Other "Follansbee Forge" Sheet Specialties

Follansbee Forge DRAWRITE REG. U.S. PAT. OFF.

A wonderful sheet for the most difficult and exacting stamping requirements.

Lustro Coated Sheets—Nickel, copper, brass or chromium coated for electric stoves, toasters, radio apparatus, novelties, etc.

Various grades of single and full pickled finishes and qualities.

Blue and Polished Sheets.
Automobile Sheets.
Terne and Charcoal Bright Tin Plates.

REPUBLIC STEEL CORPORATION

Electrical Sheets and Other Steel Products

General Offices

YOUNGSTOWN, OHIO

District Offices

BIRMINGHAM, ALA.
BOSTON, MASS.
BUFFALO, N. Y.
CHICAGO, ILL.
CINCINNATI, OHIO
CLEVELAND, OHIO
DALLAS, TEX.
DENVER, COLO.

ST. LOUIS, MO.

DETROIT, MICH.
EL PASO, TEX.
LOS ANGELES, CALIF.
NEW YORK, N. Y.
PHILADELPHIA, PA.
PITTSBURGH, PA.
SAN FRANCISCO, CALIF.
SEATTLE, WASH.

Electrical Silicon Steel Sheets for All Commercial Requirements

Republic Electrical Steel Sheets have been proved by strict analysis tests to meet effectively specific requirements for the many commercial uses to which they are put.

Every sheet is guaranteed to meet specific standards of core loss and permeability, and to be uniform in quality, electrical properties and punching requisites. This perfect uniformity, assured by our process of heat-treating and rolling, tends to high electrical efficiency, thus reducing material costs and punching operations. The superior quality of Republic sheets for machining, means better production with less waste. Our products are constantly tested in well equipped electrical and metallurgical laboratories; all shipments are carefully inspected before leaving the plant. Records of such tests and inspections are furnished the purchaser.

The various grades of Republic sheets differ principally in silicon content and in the manner and degree of working and heat-treatment. Our silicon steels are characterized by low hysteresis loss. Percentages of silicon vary up to a 4% maximum, the exact amount for each grade of sheet being determined by the degree of ductility, permeability, and other electrical characteristics needed for its particular use. A more detailed description of Republic electrical sheets follows:

Transformer Sheets—Mainly for the manufacture of transformers. The high silicon alloy steel gives the lowest possible core loss, and a thin paper-like scale acts as an insulator on the laminae. Although not guaranteed, this scale is unusually uniform.

Dynamo Sheets—Combining low core loss qualities with high permeability, still maintaining the punching characteristics essential for dynamo manufacturers.

Special Motor Sheets—For 25-cycle transformer work and stators of induction motors. In heavy gauges it meets all requirements formerly needing a lighter gauge of lower grade. Non-aging sheets of extremely low core losses and high permeability with a relatively high silicon content incorporated to assure easy punching and tensile strength.

Electrical Sheets—For regular uses requiring high permeability and reasonably low core losses, as in the manufacture of dynamos, induction motors, alternators and d-c. machinery.

Armature Sheets—Specially annealed sheets for laminated poles, intermittent-operating and high-induction machines, and general work where a core loss of 30 to 35% can be sacrificed. At higher inductions the permeability is equal to that of our electrical sheets, but the armature sheet is not guaranteed against aging.

Republic offers to manufacturers of electrical generating, transmitting and distributing equipment a wide variety of steel products including Bars, Small and Special Shapes, Pipe, Black Sheets in plain, pickled, auto body, and metal furniture finishes, Galvanized, Long Ternes, Tin Plate, Tin Mill Black Plate, Bolts, Nuts, Spikes, Turnbuckles.

HANDY & HARMAN

Silver Solders, also Silver, Gold and Platinum

57 William Street

NEW YORK, N. Y.

Service Plants

BRIDGEPORT, CONN. NEW YORK, N. Y., Fulton & Gold Streets PROVIDENCE, R. I., 425 Richmond Street

Silver Solders

Solders containing silver are replacing both the hard and the soft all-base-metal solders in a wide range of applications in the electrical crafts.

Characteristics

1. High electrical conductivity—above that of spelter solders. Our guarantee of the uniformity of each "Handy" formula enables its users to hold resistance to a fixed known value.

2. Flow at lower temperature than brazing solders (see table below).

3. Some compositions withstand operating temperatures up to 1600° F. and are therefore desirable for joints that are liable to heat above the melting point of soft solder.

4. Operate on the brazing principle, but it is not necessary to heat the parts to such high temperatures. This avoids the weakening of parts contiguous to the joint.

5. Make strong joints with tensile strength ranging from 40,000 to 60,000 lb. per sq. in.

6. Have marked power of resistance to shock and continued vibration.

A Few Typical Applications

(a) For joining commutator segments.

(b) For soldering leads or other joints subject to rise in temperature above the critical point for soft solder.

(c) For joining bus bars, contactors, etc.

(d) For brazing rotor bars and end connectors on polyphase induction motors.

(e) For sealing radio or x-ray bulbs.

(f) For securing resistance wire to terminals and leads in radio resistors.

(g) For fastening armature suspension springs in radio loudspeakers.

"Handy" Solders Are Accurately Standardized

Our 63 years as fabricators of precious metals, our fully equipped laboratories, and our trained technical staff have enabled us to conduct thousands of carefully-checked experiments and tests during the past few years to determine the proportions of silver and other metals which will best meet typical requirements.

In this way we have been able to reduce Handy Silver Solders to 12 guaranteed formulas. The subjoined table lists Handy Silver Solders in the order of their silver content. The "TL" grade contains the least silver and "IT" the most. Prices naturally rise with the silver content. Quotations based upon the current silver market will be made promptly, after your needs have been determined.

Cost Not Excessive

The use of Handy Silver Solder frequently reduces, rather than increases, production costs, because a much smaller quantity is required per joint, and because silver solder works faster, cutting the unit labor cost. Greater satisfaction to the customer and the avoidance of costly service-calls or rejections must also be considered.

Shapes and Sizes

Handy Silver Solders are furnished in sheets, strips, wire and filings, in sizes to suit customer's requirements.

We Co-operate

Our Testing Laboratory is at your service for new and unusual problems. Records of thousands of tests, made by ourselves and our customers, enable us to speak with a degree of authority. We will consider it a privilege to co-operate with you in solving any soldering, brazing and welding problems that you submit to us. *Write for Bulletin 3 MG.*

STANDARD "HANDY" SILVER SOLDERS

Grade	Melting point, deg., F.	Color	Description
"TL"	1600	Brass-Yellow	For copper and brass wire, tubing and other parts, or for any metal not harmed by 1500°—1600° F temperatures. Excellent for soldering rotor bars of motors. Have marked advantages over brass solders in lower melting points, and sounder, stronger joints.
"ATT"	1500	Brass-Yellow	
"NT"	1450	Pale-Yellow	For splicing copper wire and general soldering on all small parts. Contain more silver and melt at lower temperatures than "TL" and "ATT" solders.
"DT"	1445	Pale-Yellow	
"DE"	1370	Yellow white to white	Easy-flowing solders containing high percentages of silver.
"ET"	1340		Easy to handle and give strong sound joints. Can be used on small parts. Resist corrosion and have high conductivity.
"RT"	1325		
"BT"	1425	White	Eutectic composition of silver and copper; contains no zinc.
"IT"	1460	White	Contains high percentage of silver. Gives extremely strong ductile joints.

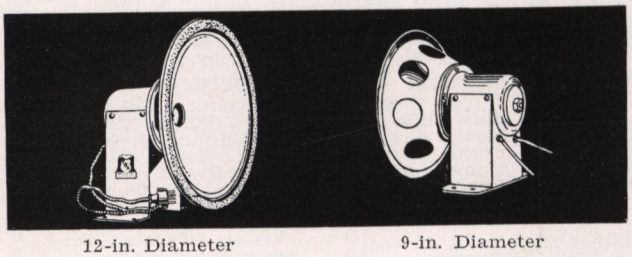
TRANSFORMER CORPORATION OF AMERICA

2301-2319 S. Keeler Ave.
CHICAGO, ILLINOIS

Complete manufacturers of small transformers, chokes, power packs and dynamic speakers. Full engineering and research facilities for assistance of customers. Only production contracts solicited.

Dynamic Speakers

Full engineering data available on request. These speakers are noteworthy for their richness of tone and extreme sensitivity. Cleancut in design, substantial, and made by precision methods that assure perfect uniformity. Field coils are layer wound. Equipped with terminal lugs, leads, or extension cord as may be ordered. Field coils wound to manufacturer's specification. Field housing of pressed steel. Bracket and frame all cadmium plated. Can be furnished in two sizes, 12 and 9-in. bells.

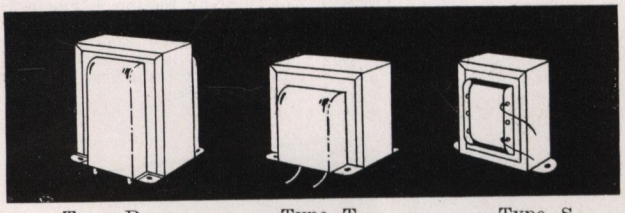


12-in. Diameter 9-in. Diameter

Dynamic Speakers

Radio Chokes

T.C.A. Chokes, in full range of radio sizes, are offered to specifications. Fully mounted, semi-mounted or unmounted. Laminated cores. Coils layer-wound, securely anchored leads. Samples on request.



Type P Fully Mounted Vertical | Type T Fully Mounted Horizontal | Type S Semi-mounted Vertical

Radio Chokes

Paper Condensers

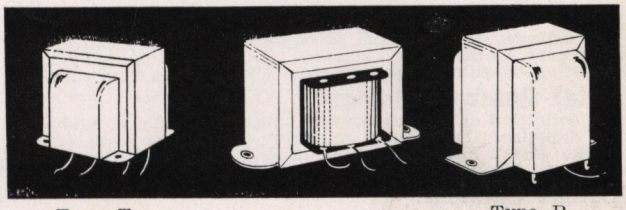
Fixed paper condensers for power factor correction in radio or industrial applications. Sizes and types to meet all requirements, physical or electrical. Latest equipment combined with extensive engineering research and experience insure a product of quality and reliability.

Manufacturers are invited to consult with the condenser engineering department in connection with any problems involving the use of electrostatic condensers.

Audio Transformers

Extremely flat amplification curves for finest radio application. Laminations guaranteed as to dimensional accuracy, and electrical characteristics of steel. Coils layer-wound, with well anchored pigtail leads or lugs. Full mounted type in cadmium plated, pressed steel housings. Full range of ratios and sizes for radio and sound application use. Special types available on short notice.

Input and output transformers—wide variety of stock sizes and finishes—special units in any quantity to order.



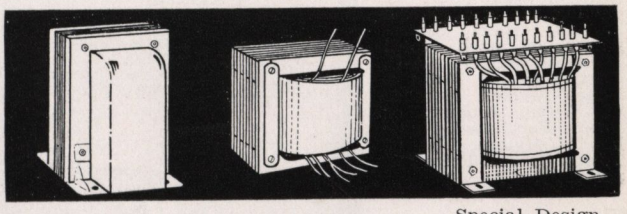
Type T Fully Mounted Horizontal | Type S Semi-mounted | Type P Fully Mounted Vertical

Audio Transformers

RADIO POWER SUPPLY UNITS

Radio Power Transformers

Substantial, accurately built power transformers, furnished in any voltage assortment, to order. Uniformity of these units is guaranteed—coils all layer-wound—cores of high silicon content steel. Competent engineering assistance in developing the proper unit to meet individual needs of radio sets is gladly offered.

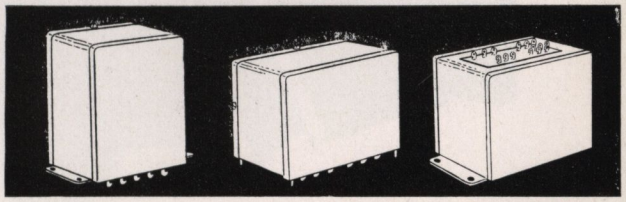


Type P Fully Mounted | Open Type Unmounted | Special Design with Connecting Panel

Radio Power Transformers

Power Packs

Complete power packs—with power transformers and chokes—in extremely compact, well constructed steel housing, offered on contract in any quantity. High engineering standards insure freedom from noise and hum. Silence, accuracy, dependability and long life are a natural result of the skillful engineering and precision construction of these units.



Type B-14 Vertical | Type B-2 Horizontal | Type B-2V Terminals at Top

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Metal Quarry Directory

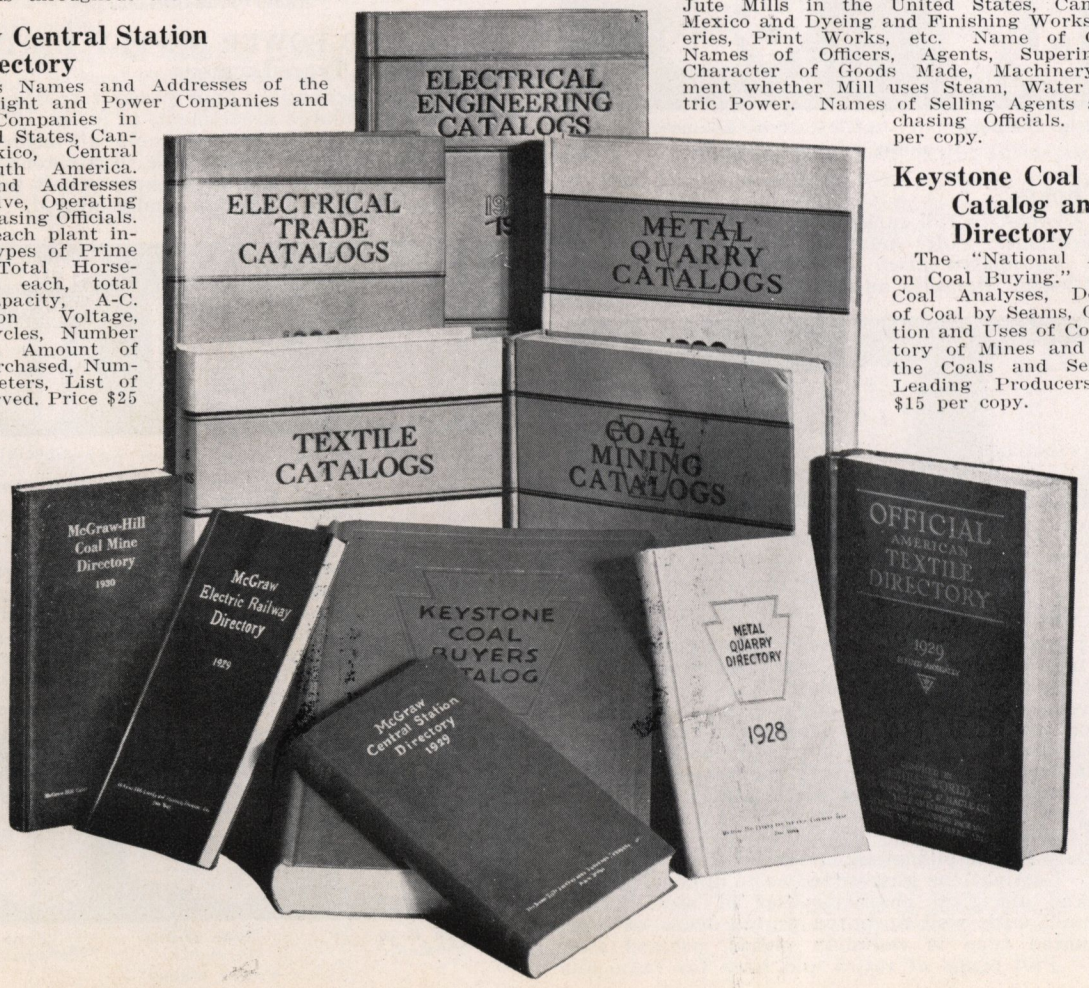
Contains Names, Location, Addresses of the active Metal Mines, Non-Metallic Mines and Quarries in the United States, Canada and Mexico, with the Names, Titles and Local Addresses of Executives and Principal Operating Officials. Includes data on Minerals Produced, Number of Employees, Daily Output, Type of Opening, Process Employed by Mine and Mill, Amount of Power Used. Price $25 per copy.

Official American Textile Directory

Lists Cotton, Woolen, Knitting, Silk, Flax and Jute Mills in the United States, Canada and Mexico and Dyeing and Finishing Works, Bleacheries, Print Works, etc. Name of Company, Names of Officers, Agents, Superintendents, Character of Goods Made, Machinery Equipment whether Mill uses Steam, Water or Electric Power. Names of Selling Agents and Purchasing Officials. Price $6 per copy.

Keystone Coal Buyers Catalog and Mine Directory

The "National Authority on Coal Buying." Contains Coal Analyses, Description of Coal by Seams, Classification and Uses of Coal, Directory of Mines and Data on the Coals and Services of Leading Producers. Price $15 per copy.



Index to Products Cataloged and Directory of Manufacturers

With Company Names, Trade Names and Addresses

Bold Face type denotes companies illustrating and describing the product on the page indicated.

Light Face type indicates companies making the product but not illustrating and describing it.

For Index to Catalogs by Company Name—See Pages 8–9

INDEX TO PRODUCTS CATALOGED AND DIRECTORY OF MANUFACTURERS

With Company Names, Trade Names and Addresses

All products are indexed under the principal noun

(For example, Park Cable is listed under "C"—Cable, Armored Park—not under "P")

Bold Face type denotes companies illustrating and describing the product on the page indicated.

Light Face type indicates companies making the product but not illustrating and describing it.

ACID, Battery—

see **Acid**, Sulphuric

ACID RESISTING PAINT—

see **Paint**, Acid Resisting

ACID, Soldering—

see **Flux**, Soldering

ACID, Sulphuric

For use in Electrolyte for Storage Batteries

Central Chemical Co., 4100 S. Marshfield Ave., Chicago, Ill.
Cooper & Co., Chas., 194 Worth St., New York, N. Y.
du Pont de Nemours & Co., E. I., 3500 Gray's Ferry Rd., Philadelphia, Pa.
Eagle-Picher Lead Co., 134 N. La Salle St., Chicago, Ill.
General Chemical Co., 40 Rector St., New York, N. Y.
Globe Chemical Co., Murray Rd. & Big Four R.R., (St. Bernard) Cincinnati, Ohio
Grasselli Chemical Co., 629 Euclid Ave., Cleveland, Ohio
Kalbfleisch Corp., 200 Fifth Ave., New York, N. Y.
Matthiessen & Hegeler Zinc Co., La Salle, Ill.
Merrimac Chemical Co., 148 State St., Boston, Mass.
Monsanto Chemical Works, 1800 S. Second St., St. Louis, Mo.
Tennessee Copper & Chemical Corp., 61 Broadway, New York, N. Y.
Wiarda & Co., John C., Green, Provost & Freeman Sts., Brooklyn, N. Y.

ACID SYRINGES—

see **Syringes**, Bulb

ACORNS, Socket Chain—

see **Fittings**, Pull Chain

ADAPTERS, Candle-Stick

Candle Form Extension Sockets with Special Bases for Mounting in Candle-Sticks; for Candle Form Sockets for Fixture Mounting—see Sockets, Candle

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Lenox—see Timberlake & Sons
Manhattan Brass & Electric Co., 30 Warren St., New York, N. Y.
Noe & Sons, William R., 43 E. Tenth St., New York, N. Y.
Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.
Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Timberlake & Sons, J. B., Jackson, Mich. "Lenox"
Vaslamp Mfg. Corp., 225 Fifth Ave., New York, N. Y.
White Mfg. Co., J. H., 79 Madison Ave., New York, N. Y.

ADAPTERS, Conduit Bushing

Threaded Collars, Bushings or Nuts, for use on Ends of Conduit to fit Over or Under-Sized Holes

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Crescent—see Mullenbach Electric Mfg. Co.
Mullenbach Electric Mfg. Co., 1116 E. 16th St., Los Angeles, Cal. "Crescent"
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.
Thomas & Betts Co., 15 Park Pl., New York, N. Y.

ADAPTERS, Fuse

For Installing Smaller Size Cartridge Fuses in a Large Size Cutout Block; for Adapters for Plug Fuses—see Adapters, Socket

Plainville Electrical Products Co., Plainville, Conn.

ADAPTERS, Oil Lamp

Adapters for Converting Oil Lamps for Electrical use

General Electric Co., Bridgeport, Conn.
Harvard Electric Co., 2608 Flournoy St., Chicago, Ill.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Miller Co., 101 Center St., Meriden, Conn.
Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Vaslamp Mfg. Corp., 225 Fifth Ave., New York, N. Y.

ADAPTERS, Plug

For Adapting Two-Prong Plug Receptacles for Attachment to Plugs with Blades of Various Arrangements

Hubbell, Inc., Harvey, State St., & Bostwick Ave., Bridgeport, Conn.

ADAPTERS, Receptacle—

see **Plugs**, Separable Attachment

ADAPTERS, Socket

For Adapting a Socket for use with Lamps having Smaller Bases

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
DeJur Products Co., 418 Broome St., New York, N. Y.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Eureka—see Morse Co.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
General Electric Co., 1 River Rd., Schenectady, N. Y.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Propp Co., M., 524 Broadway, New York, N. Y.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)
Weber Electric Co.—see Sears, Henry D.
Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

ADAPTERS, Vase

Complete with Cord for Converting Vases into Electric Lamps

Anchor—see Timberlake & Sons
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Kelton Mfg. Co., 77 Beacon St., Worcester, Mass.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Timberlake & Sons, J. B., Jackson, Mich. "Anchor"
Vaslamp Mfg. Corp., 225 Fifth Ave., New York, N. Y.

ADJUSTERS, Cord

Wood or Fibre Devices for Taking Up Slack in Cord; for Cord Springs and Reels—see Holders, Electric Iron Cord

Bogert & Hopper, 225 Varick St., New York, N. Y.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Estes & Sons, E. B., 25 Vanderbilt Ave., New York, N. Y.
Eureka—see Morse Co.
Fra-Mar Wood Novelty Co., Lancaster, Pa.
McGill Mfg. Co., Valparaiso, Ind.
Morse Co., Frank W., 289 Congress St. Boston, Mass. "Eureka"
National Vulcanized Fibre Co., Wilmington, Del.
Novelty Turning Co., 34 Main St., Norway, Me.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Wilmington Fibre Specialty Co., Wilmington, Del.

AGATE BEARINGS—

see **Bearings**, Jewel

AIR DRYING VARNISH—

see **Varnish**, Insulating

AIR FLOW SWITCHES—

see **Switches**, Air Flow Controlled

AIR GAP GAGES—

see **Tools**, Armature Repair

AIRPORT LIGHTING EQUIPMENT—

see **Fixtures**, Airport Lighting
See also **Projectors**, Flood Lighting

AISLE LIGHTS—

see **Fixtures**, Theater

ALARMS, Low Water—

see **Switches**, Float Operated

ALARMS, Manual Burglar

Foot Rest Contacts, etc.; for Contact Matting and Door Trips—see Switches, Burglar Alarm

Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
E-J Electric Installation Co., 155 E. 44th St., New York, N. Y.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Faraday—see Stanley & Patterson
Hold-Up—see Partrick & Wilkins Co.
Low Tension Electric Co., 60 Ann St., New York, N. Y.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa. "Hold-Up"
Stanley & Patterson, 150 Varick St., New York N. Y. "Faraday"

ALARMS, Manual Fire—

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ALARMS, Tank—

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ALARMS, Temperature—

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ALLEY ARM BRACES—

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ALUMINUM CONDUIT—

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ALUMINUM, Rod—

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ALUMINUM SHADES—

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ALUMINUM, Sheet, Rod and Tube

For Aluminum Castings—see Castings, Aluminum

Aluminum Co. of America, Oliver Bldg. Pittsburgh, Pa.

ALUMINUM TUBES—

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ALUMINUM WIRE—

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AMMETERS, Astatic—

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AMMETERS, Recording—

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AMMETERS, Standard—

see **Ammeters and Voltmeters**, Portable

AMMETERS, Switchboard—

see **Ammeters and Voltmeters**. Switchboard Type

AMMETERS and VOLTMETERS, Pocket

Small Watch Type Meters for use in Testing Dry Cell Batteries, etc.

Beede Electrical Instrument Co., 136 Liberty St., New York, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.
Lundquist Tool & Mfg. Co., 144 Green St., Worcester, Mass. "Yankee"
Nagel Electric Co., W. G., 511 Hamilton St., Toledo, Ohio
Readrite Meter Works, Bluffton, Ohio
Sterling Mfg. Co., 2835 Prospect Ave., Cleveland, Ohio
Tiffany Mfg. Co., 42 Spring St., Newark, N. J.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Yankee—see Lundquist Tool & Mfg. Co.

AMMETERS and VOLTMETERS, Portable

General Purpose Testing Ammeters and Voltmeters, mounted in Portable Cases

Bristol Co., Waterbury, Conn.
Burgess Battery Co., 111 W. Monroe St., Chicago, Ill.
Burton-Rogers Co., 857 Boylston St., Boston, Mass. (Sole Distributors for Hoyt Electrical Instrument Works, Boston, Mass.)
Cambridge Instrument Co., Grand Central Terminal, New York, N. Y.
Esterline-Angus Co., (Speedway City) Indianapolis, Ind.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Hoyt Electrical Instrument Works—see Burton-Rogers Co.
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio
Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y.
Pignolet Instrument Co., 76 Greenwich St., New York, N. Y.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.
Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Western Electro-Mechanical Co., 131 Broadway, Oakland, Cal.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **101**
Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

AMMETERS and VOLTMETERS, Switchboard Type

Standard Size Meters for Permanent Mounting on Large Control Boards

Bristol Co., Waterbury, Conn.
Burton-Rogers Co., 857 Boylston St., Boston, Mass. (Sole Distributors for Hoyt Electrical Instruments Works, Boston, Mass.)
Cambridge Instrument Co., Grand Central Terminal, New York, N. Y.
Esterline-Angus Co., (Speedway City) Indianapolis, Ind.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Hoyt Electrical Instrument Works—see Burton-Rogers Co.
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.
Norton Electrical Instrument Co., 81 Hilliard St., Manchester, Conn.
Pignolet Instrument Co., 76 Greenwich St., New York, N. Y.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.
Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

AMPERE-HOUR METERS—
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AMPLIFIERS, Power—
see **Power-Packs**

AMPLIFIERS, Sound
Portable Electrically operated Amplifiers designed to aid Persons with Impaired Hearing

Acousticon—see Dictograph Products Corp.

Dictograph Products Corp., 220 W. 42d St., New York, N. Y. "Acousticon"

Globe Technolian Corp., Reading, Mass.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Western Electric Co., New York, N. Y.)

Harper Oriphone Co., 294 Washington St., Boston, Mass. "Oriphone"

Magniphone Co., 59 E. Madison St., Chicago, Ill.

Oriphone—see Harper Oriphone Co.

Western Electric Co.—see Graybar Electric Co.

ANCHOR RODS—
see **Rods,** Anchor and Guy

ANCHOR SCREWS—
see **Bolts,** Expansion

ANCHORS, Cable—
see **Terminals,** Wire

ANCHORS, Earth Guy
Cone, Plate, Screw or Drive Anchors for use in Earth; for Rock or Concrete Anchors—see Anchors, Rock Guy

Bierce—see Specialty Device Co.

Chance Co., Centralia, Mo. "Never Creep"

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Everstick Anchor Co., 128 Madison St., St. Louis, Mo.

Hallett Iron Works, Harvey, Ill.

Harpoon—see Iron Products Corp.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Steelwing"

Iron Products Corp., La Crosse, Wis. "Harpoon"

Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.

Lanz Bolt Co., M., 2907 E. Carson St., S. S. Pittsburgh, Pa.

Line Material Co., South Milwaukee, Wis.

Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo., "Scrulix" "Traplox" "Xpandix"

Never Creep—see Chance Co.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa. "Steelscrew"

Red Top—see Universal Cable Grip Co.

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.

Scrulix—see Matthews Corp.

Specialty Device Co., 106 W. Third St., Cincinnati, Ohio "Bierce"

Steelscrew—see Oliver Iron & Steel Corp.

Steelwing—see Hubbard & Co.

Traplox—see Matthews Corp.

Universal Cable Grip Co., 50 Genesee St., Skaneateles, N. Y. "Red Top"

Wej-Lock Mfg. Co., Winterset, Iowa

Xpandix—see Matthews Corp.

ANCHORS, Expansion Screw—
see **Bolts,** Expansion

ANCHORS, Guy—
see **Anchors,** Earth Guy
also **Anchors,** Rock Guy

ANCHORS, Rock Guy
Lewis Type Anchors, Split Rod and Wedge Types, etc., for Securing Guy Wire to Rock or Concrete; for Earth Guy Anchors—see Anchors, Earth Guy

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S. Pittsburgh, Pa.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

ANGLE BRACES—
see **Braces,** Angle and Ratchet

ANNEALING OVENS—
see **Ovens,** Commercial Industrial

ANNUNCIATOR WIRE—
see **Cable,** Elevator Annunciator
also **Wire,** Cotton Covered and Paraffined

ANNUNCIATORS, Carriage Call—
see **Calls,** Carriage

ANNUNCIATORS, Drop and Lamp
Stations for Call Systems using Drops or Lamps for Indicators

Ansonia Electric Co., 63 Main St., Ansonia, Conn.
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Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.

Bryant Electric Co., 1421 State St., Bridgeport, Conn

Cory & Son, Chas., 183 Varick St., New York, N. Y.

Couch Co., S. H., Arlington St., Norfolk Downs, Mass.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Faraday—see Stanley & Patterson

Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.

Low Tension Electric Co., 60 Ann St., New York, N. Y.

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Samson Electric Co., 227 Washington St., Canton, Mass.

Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

Western Electric Co., 195 Broadway, New York, N. Y.

ANNUNCIATORS, Electric Reset—
see **Annunciators,** Drop and Lamp

ANNUNCIATORS, Lamp—
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ANTENNA INSULATORS, Radio—
see **Insulators,** Radio Antenna

ANTENNA WIRE—
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APPLIANCE COVERS—
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see **Carbons,** Arc Lamp

ARC LAMP CHAIN—
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ARC LAMP CORD—
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ARC WELDING ELECTRODES—
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ARMATURE BALANCING MACHINES—
see **Machines,** Rotor Balancing

ARMATURE BANDING WIRE—
see **Wire,** Tinned Steel

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see **Wedges,** Armature

ARMATURE REPAIR TOOLS—
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ARMATURE STEEL—
see **Steel,** Silicon Sheet

ARMATURE STICKS—
see **Wedges,** Armature

ARMATURE TAPING MACHINES—
see **Machines,** Armature Winding and Taping

ARMATURE TESTERS—
see **Testers,** Armature

ARMATURE WASHING COMPOUNDS—
see **Compounds,** Armature Washing

ARMATURE WEDGES—
see **Wedges,** Armature

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see **Fittings,** Flexible Metallic Conduit

ARMORED LIGHTING CABLE—
see **Cable,** Flexible Steel Armored

ARMORING MACHINES—
see **Machines,** Cable Armoring

ARMS, Bayonet—
see **Brackets,** Metal Insulator

ARMS, Flexible
Metallic Arms of Flexible Tubing complete with Threaded Connections
Breeze Metal Hose & Mfg. Co., 22 S. Sixth St., Newark, N. J. "FleXmet"
Fischer Spring Co., Chas., 240 Kent Ave., Brooklyn, N. Y.
FleXmet—see Breeze Metal Hose & Mfg. Co.
Sampson Axcess System, Inc., 282 Broad St., Lynn, Mass.

ARRESTERS, Radio Lightning
Covering only Companies Cataloging this Product
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
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ASBESTOS COVERED WIRE—
see **Wire,** Asbestos Covered

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Board and Sheet of Asbestos
Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.
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Ebony—see Johns-Manville Corp.
Eternit, Inc., 9201 Riverview Drive, St. Louis, Mo.
Ferodo & Asbestos, Inc., New Brunswick, N. J. "Lectricwood"
Johns-Manville Corp., 292 Madison Ave., New York, N. Y. "Ebony" "Transite"
Lectricwood—see Ferodo & Asbestos, Inc.
Standard Asbestos Co., 69 Beekman St., New York, N. Y.
Superbestos Co., 1223 S. Wabash Ave., Chicago, Ill. "Supertex"
Supertex—see Superbestos Co.
Transite—see Johns-Manville Corp.

ASBESTOS TAPE—
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ASBESTOS YARN—
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National Slate Association, Drexel Bldg., Philadelphia, Pa.
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also **Plugs and Receptacles,** Polarized
also **Plugs,** Separable Attachment
also **Plugs,** Unit Attachment

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see **Cleaners,** Portable Vacuum

AUDI-PHONES—
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AUDIO FREQUENCY TRANSFORMERS—
see **Transformers,** Audio Frequency

AUTO TRANSFORMERS—
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see **Kits,** Automobile Lamp

AUTOMOBILE LAMPS—
see **Lamps,** Incandescent

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see **Relays,** Current Control

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see **Switches,** Baby Knife

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see **Braces,** Crossarm

BACK GEARING—
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see **Insulation,** Synthetic

BAKELITE, Molded—
see **Insulation,** Molders of Composition

BAKING OVENS—
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see **Motor-Generators**

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BANDING WIRE—
see **Wire,** Tinned Steel

BAR SOLDER—
see **Solder**

BARBECUE OUTFITS—
see **Spits,** Roasting

BARRIERS—
see **Asbestos,** Sheet
also **Marble,** Barrier and Slab
also **Slate,** Barrier and Slab
also **Soapstone,** Barrier and Slab

BARS, Bus—
see **Aluminum,** Sheet, Rod and Tube
also **Brass and Copper,** Sheet and Rod
also **Tubing,** Brass or Copper

BARS, Digging—
see **Bars,** Metal Tamping and Digging

BARS, Metal Tamping and Digging
Metal Pole Hole Digging and Tamping Bars; for Wood Tamping Bars — see Bars, Wood Tamping
Columbus Handle & Tool Corp., 14th St. & Big Four R.R., Columbus, Ind. "Sturd E"
Cronk & Carrier Mfg. Co., Montour Falls, N. Y.
Duffy Mfg. Co., 214 W. Grand Ave., Chicago, Ill.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.
Leach Co., 412 S. Main St., Oshkosh, Wis. "OshKosh"
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
OshKosh—see Leach Co.
Sturd E—see Columbus Handle & Tool Corp.

BARS, Tamping—
see **Bars,** Metal Tamping and Digging
also **Bars,** Wood Tamping

BARS, Wood Tamping

Wood Tamping Bars; for Metal Tamping Bars—see Bars, Metal Tamping and Digging

Columbus Handle & Tool Corp., 14th St. & Big Four R.R., Columbus, Ind. "Sturd E"

Everstick Anchor Co., 128 Madison St., St. Louis, Mo.

Leach Co., 412 S. Main St., Oshkosh, Wis. "OshKosh"

OshKosh—see Leach Co.

Sturd E—see Columbus Handle & Tool Corp.

BASE, Conduit—

see **Molding,** Ornamental Metal

BASES, Incandescent Lamp

For use in Assembling Incandescent Lamps; for Bulbs—see Bulbs. Incandescent Lamp; for Filaments—see Filaments, Incandescent Lamp

American Ring Co., 531 Bank St., Waterbury, Conn. "Ringco Brand"

Chase-Crescent Co., Mountain Grove, Mo.

Patton-Mac Guyer Co., Baker St. & Virginia Ave., Providence, R. I.

Providence Base Works of General Electric Co., 586 Atwells Ave., Providence R. I.

Ringco Brand—see American Ring Co.

BASES, Porcelain Switch

Covering only Companies Cataloging this Product

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61

BASES, Receptacle—

see **Receptacles,** Metal Shell
also **Receptacles,** Porcelain

BASES, Switch—

see **Receptacles,** Metal Shell
also **Receptacles,** Porcelain

BASKET WEAVE ARMORED CABLE—

see **Cable,** Basket Weave Armored

BATHS, Electric Light

Cabinets used for Therapeutic purposes; for Lamps used in Special Treatments—see Lamps, Therapeutic

Betz Co., Frank S., Hoffman & Johnson Sts., Hammond, Ind.

Burdick Corp., Milton, Wis.

Cannon Electric Development Co., 420 West Ave., 33, Los Angeles, Cal.

Hospital Supply Co., 159 E. 23d St., New York, N. Y.

Kny-Scheerer Corp. of America, 233 Spring St., New York, N. Y.

Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.

BATHS, Electric Tempering

Complete Electrically Heated Baths for use in Heat Treating Operations

Despatch Oven Co., 628 N. E. Ninth St., Minneapolis, Minn.

BATTERIES, Desiccated

Primary Batteries with Dry Electrolyte; for Dry Primary Batteries—see Batteries, Primary Dry

Addwater—see Burn-Boston Mfg. Works

Burn-Boston Mfg. Works, 80 Boylston St., Boston, Mass., "Addwater"

Helios Battery Co., 71 Chestnut St., Boston, Mass.

Telecell—see Waterbury Battery Co.

Waterbury Battery Co., 1036 S. Main St., Waterbury, Conn. "Telecell"

BATTERIES, Dry—

see **Batteries,** Desiccated
also **Batteries,** Primary Dry

BATTERIES, Flashlight—

see **Batteries,** Primary Dry

BATTERIES, Medical

For Furnishing High Voltage Alternating Current for Therapeutic purposes; for Violet Ray Machines—see Generators, Electrotherapeutic

Bunnell & Co., J. H., 32 Park Pl., New York, N. Y.

Chloride of Silver Dry Battery Co., 515 W. Franklin St., Baltimore, Md.

Elco—see Lindstrom & Co.

Fischer & Co., H. G., 2333 Wabansia Ave., Chicago, Ill.

Kendrick & Davis Co., Lebanon, N. H.

Kny-Scheerer Corp. of America, 233 Spring St., New York, N. Y.

Lindstrom & Co., 2322 Indiana Ave., Chicago, Ill. "Elco"

McIntosh Electrical Corp., 223 N. California Ave., Chicago, Ill.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

BATTERIES, Primary Dry

For Primary Wet Batteries—see Batteries, Primary Wet; for Desiccated Batteries—see Batteries, Desiccated

Ace—see Carbon Products Co.

Bond Electric Corp., 257 Cornelison Ave., Jersey City, N. J.

Bright Star Battery Co., 15th St., Hoboken, N. J.

Burgess Battery Co., 111 W. Monroe St., Chicago, Ill.

Carbon Products Co., Lancaster, Ohio "Ace"

Champion Carbon Mfg. Co., First National Bank Bldg., Cincinnati, Ohio

Coast Dry Battery Co., 1327 Rainier Ave., Seattle, Wash. "Whiz"

Columbia—see National Carbon Co.

Deal Electric Co., 453 Broome St., New York, N. Y.

Diamond Electric Corp., 780 Frelinghuysen Ave., Newark, N. J.

Eveready—see National Carbon Co.

French Battery Co., 30 N. Michigan Ave., Chicago, Ill. "Ray-O-Vac"

General Dry Batteries, Inc., 13100 Athens Ave., Cleveland, Ohio "Kleartone"

Hipco—see Hipwell Mfg. Co.

Hipwell Mfg. Co., 825 North Ave., N. S., Pittsburgh, Pa. "Hipco"

Kleartone—see General Dry Batteries

Kwik-Lite—see Usona Mfg. Co.

Marathon Battery Co., Wausau, Wis.

National Carbon Co., 30 E. 42d St., New York, N. Y. "Columbia" "Eveready" "Red Seal"
Cataloged on pages 130-132

Niagara Searchlight Co., Niagara Falls, N. Y.

Pioneer—see Serve-U Electrical Products Co.

Red Seal—see National Carbon Co.

Ray-O-Vac—see French Battery Co.

Serve-U Electrical Products Co., New Hyde Park, N. Y. "Pioneer"

Stuart Products Corp., 663 W. Washington Blvd., Chicago, Ill.

U S L Battery Corp., 3215 Highland Ave., Niagara Falls, N. Y.

Underwood Battery Co., 1250 Ontario St., Cleveland, Ohio

United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"

Usalite—see United States Electric Mfg. Corp.

Western Cable & Light Co., Baldwin, Wis.

Whiz—see Coast Dry Battery Co.

BATTERIES, Primary Wet

Low Voltage Cells for use in Open or Closed Circuits; for Dry Batteries—see Batteries, Primary Dry

Bryant Mfg. Co., 456 W. Ontario St., Chicago, Ill.

Edison Storage Battery Co., Bloomfield, N. J.

Samson Electric Co., 227 Washington St., Canton, Mass.

Waterbury Battery Co., 1036 S. Main St., Waterbury, Conn.

BATTERIES, Small Capacity Storage

Automotive Starting and Lighting Types

Advance Battery Mfg. Co., 227 E. Lee St., Louisville, Ky. "Powerfield"

Aladdin—see Henderson Battery Co.

Am-plus Storage Battery Co., 425 W. Superior St., Chicago, Ill.

American Storage Battery Co., 322 A St., Boston, Mass. "Harvard"

Bond Electric Corp., 257 Cornelison Ave., Jersey City, N. J.

Brown Mule—see Harrison Smith Co.

Calumet Storage Battery Co., 10113 Indianapolis Ave., Chicago, Ill.

Camel—see Campbell Electric Co.

Campbell Electric Co., 1529 Wyandotte St., Kansas City, Mo. "Camel"

Champion—see MacRae, Hector C.

Consol—see Consolidated Battery Co.

Consolidated Battery Co., 111 Colgate St., Buffalo, N. Y. "Consol"

Continental Battery Co., 3201 Papin St., St. Louis, Mo.

Edison Storage Battery Co., Bloomfield, N. J.

Electric Storage Battery Co., Allegheny Ave. & 19th St., Philadelphia, Pa. "Exide"

Empire Electric Mfg. Co., 25 E. Juneau Ave., Milwaukee, Wis.

Englert Mfg. Co., S. 25th & Jane Sts., Pittsburgh, Pa.

Ex-Cel Battery Works, 1502 S. Wabash Ave., Chicago, Ill.

Exide—see Electric Storage Battery Co.

Fort Wayne Battery Mfg. Co., 300 E. Fourth St., Fort Wayne, Ind.

Franklin Storage Battery Co., 2901 W. Jackson Blvd., Chicago, Ill.

General Lead Batteries Co., 4 Lister Ave., Newark, N. J. "Titan"

General Storage Battery Co., 2005 Locust St., St. Louis, Mo.

Globe Electric Co., 14 Keefe Ave., Milwaukee, Wis.

Gould Storage Battery Co., Depew, N. Y.

Harrison Smith Co., 711 N. Broadway, Oklahoma City, Okla. "Brown Mule"

Hartford Battery Mfg. Co., Milldale, Conn.

Harvard—see American Storage Battery Co.

Hawk Electrical Mfg. Co., New Castle, Pa.

Henderson Battery Co., 232 W. Sprague Ave., Spokane, Wash. "Aladdin"

K. C. B. Electric Mfg. Co., 14th Ave. & 42d St., Sacramento, Cal.

Lyons Storage Battery Co., 355 Cortland St., Belleville, N. J.

MacRae, Hector C., 314 St. Paul St., Baltimore, Md. "Champion"

Marko Storage Battery Co., 1402 Atlantic Ave., Brooklyn, N. Y.

Mid-West Storage Battery Co., 502 N. Delaware St., Indianapolis, Ind.

National Battery Co., 1704 Roblyn Ave., St. Paul, Minn.

Nu-Seal—see Universal Battery Co.
Oneonta Storage Battery Co., Newah Pl., Oneonta, N. Y.
Oxidite Battery Corp., 1499 Marshall Ave., St. Paul, Minn.
Perrine Quality Products Corp., Waltham, Mass.
Philadelphia Storage Battery Co., Ontario & C Sts., Philadelphia, Pa. "Philco"
Philco—see Philadelphia Storage Battery Co.
Powerfield—see Advance Battery Mfg Co.
Prest-O-Lite Storage Battery Corp., 508 N. Capitol Ave., Indianapolis, Ind.
Radium Storage Battery Co., 808 Federal St., Saginaw, Mich.
S.O.S.—see Victor Storage Battery Co.
Standard Battery Mfg. Co., 1103 N. Main St., Fort Worth, Tex.
Stewart Battery Co., 119 N. Peoria St., Chicago, Ill.
Sturges Multiple Battery Corp., Van Wyck Ave. & L. I. R.R., Jamaica, N. Y.
Titan—see General Lead Batteries Co.
U S L Battery Corp., 3215 Highland Ave., Niagara Falls, N. Y.
Universal Battery Co., 3410 S. La Salle St., Chicago, Ill. "Nu-Seal"
Vesta Battery Corp., 21st St. & Indiana Ave., Chicago, Ill.
Victor Storage Battery Co., Rock Island Ill. "S.O.S."
Volkcar Storage Battery Co., 220 E. 25th St., Chicago, Ill.
Western Cable & Light Co., Baldwin Wis.
Willard Storage Battery Co., 246 E. 131st St., Cleveland, Ohio
Wubco Battery Corp., Swissvale, Pa.

BATTERIES, Storage—
see **Batteries,** Small Capacity Storage

BATTERIES, Wet—
see **Batteries,** Primary Wet

BATTERY ACID—
see **Acid,** Sulphuric

BATTERY CARBONS—
see **Carbons,** Battery

BATTERY CARRIERS—
see **Carriers,** Battery

BATTERY CELL TESTERS—
see **Testers,** Portable Battery Cell

BATTERY CHARGERS—
see **Motor-Generators,** Battery Charging
also **Rectifiers,** Battery Charging Bulb
also **Rectifiers,** Battery Charging Electrolytic or Chemical
also **Rectifiers,** Battery Charging Vibrator or Mechanical

BATTERY CHARGING RECEPTACLES—
see **Plugs and Receptacles,** Heavy Duty
also **Plugs and Receptacles,** Polarized

BATTERY CHARGING RESISTORS—
see **Resistors,** Unit

BATTERY CLIPS—
see **Clips,** Test

BATTERY COPPERS—
see **Coppers,** Battery

BATTERY ELECTROLYTE—
see **Acid,** Sulphuric

BATTERY JARS—
see **Jars,** Glass Battery
also **Rubber,** Hard

BATTERY LANTERNS—
see **Lanterns,** Portable Dry Battery

BATTERY METERS—
see **Ammeters and Voltmeters,** Pocket

BATTERY MOTORS—
see **Toys,** Electric

BATTERY SEALING COMPOUNDS—
see **Compounds,** Battery Sealing

BATTERY SEPARATORS—
see **Rubber,** Hard
also **Separators,** Wood Storage Battery

BATTERY STEAMERS—
see **Openers,** Battery

BATTERY SWITCHES—
see **Switches,** Baby Knife

BATTERY SYRINGES—
see **Hydrometers,** Battery Testing
also **Syringes,** Bulb

BATTERY TESTING HYDROMETERS—
see **Hydrometers,** Battery Testing

BATTERY THERMOMETERS—
see **Thermometers,** Battery

BATTERY ZINCS—
see **Zincs,** Battery

BAYONET ARMS—
see **Brackets,** Metal Insulator

BAYONET BRACKETS—
see **Brackets,** Metal Insulator

BEACONS, Rotating—
see **Fixtures,** Airport Lighting

BEAD CHAIN—
see **Chain,** Ball or Bead

BEADS, Fish Spine—
see **Beads,** Insulating

BEADS, Insulating
For use on Wires subject to High Temperature

American Lava Corp., 1419 William St., Chattanooga, Tenn.
Dunn, Inc., Struthers, 137 Juniper St Philadelphia, Pa.
Cataloged on page 7
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

BEAM CLAMPS—
see **Clamps,** Beam

BEARING ALARMS—
see **Relays,** Temperature

BEARINGS, Ball
For Roller Bearings—see Bearings, Roller

Aetna Ball Bearing Mfg. Co., 2737 High St., Chicago, Ill.
Ahlberg Bearing Co., 317 E. 29th St., Chicago, Ill. "CJB"
Auburn Ball Bearing Co., 65 Clarissa St., Rochester, N. Y.
Ball & Roller Bearing Co., Crosby St. & Maple Ave., Danbury, Conn.
Bantam Ball Bearing Co., South Bend, Ind.
Bearings Co. of America, Harrisburg & College Aves., Lancaster, Pa.
CJB—see Ahlberg Bearing Co.
Fafnir Bearing Co., Booth St., New Britain, Conn.
G-A Ball Bearing Co., 4550 Fulton St., Chicago, Ill.
Gurney—see Marlin-Rockwell Corp.
Gwilliam Co., 360 Furman St., Brooklyn, N. Y.
Hoover Steel Ball Co., Ann Arbor, Mich.
McGill Metal Co., Valparaiso, Ind. "Schubert"
Marlin-Rockwell Corp., 402 Chandler St., Jamestown, N. Y. "Gurney"
New Departure Mfg. Co., Bristol, Conn.
Nice Ball Bearing Co., Hunting Park Ave., Philadelphia, Pa.
Norma-Hoffmann Bearings Corp., Stamford, Conn.
SKF Industries, 40 E. 34th St., New York, N. Y.
SRB—see Standard Steel & Bearings
Schatz Mfg. Co., Fairview Ave., Poughkeepsie, N. Y.
Schubert—see McGill Metal Co.
Standard Machinery Co., 1475 Elmwood Ave., Auburn, R. I.
Standard Steel & Bearings, Inc., Plainville, Conn. "SRB"
Strom Bearings Co., 4567 Palmer St., Chicago, Ill.
Torrington Co., Torrington, Conn.
Western Bearings Co., 3012 Calumet Ave., Chicago, Ill.

BEARINGS, Die Cast—
see **Castings,** Die

BEARINGS, Jewel
Jewel Bearings for Electrical Instruments

Deknatal & Sons, J. A., 222d St. & 96th Ave., Queens Village, N. Y.
Diamond Cupped Bearing Co., 600 W. 125th St., New York, N. Y.
Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa. "Tesco"
Gatti, Aurele M., 1909 Liberty St., Trenton, N. J.
Jensen Jewel Co., Bedford St., Waltham, Mass.
Moser Jewel Co., 367 Division St., Perth Amboy, N. J.
Tesco—see Eastern Specialty Co.
Wennstrom's Sons, John, 51 Wayne Ave., Suffern, N. Y.

BEARINGS, Roller
For Ball Bearings—see Bearings, Ball

American Roller Bearing Co., 416 Melwood Ave., Pittsburgh, Pa.
Ball & Roller Bearing Co., Crosby St. & Maple Ave., Danbury, Conn.
Bantam Ball Bearing Co., South Bend, Ind.
Bower Roller Bearing Co., 3040 Hart Ave., Detroit, Mich.
Gwilliam Co., 360 Furman St., Brooklyn, N. Y.
Hoover Steel Ball Co., Ann Arbor, Mich.
Hyatt Roller Bearing Co., Middlesex St., Harrison, N. J.

BEARINGS, Roller (Continued)

Norma-Hoffmann Bearings Corp., Stamford, Conn.
Orange Roller Bearing Co., 557 Main St., Orange, N. J.
Roller Bearing Co. of America, Trenton, N. J.
Rollway Bearing Co., 541 Seymour St., Syracuse, N. Y.
Royersford Foundry & Machine Co., Main St. & First Ave., Royersford, Pa.
SKF Industries, 40 E. 34th St., New York, N. Y.
Standard Machinery Co., 1475 Elmwood Ave., Auburn, R. I.
Timken Roller Bearing Co., 1900 Ducher Ave., Canton, Ohio.
Western Bearings Co., 3012 Calumet Ave., Chicago, Ill.

BEATERS, Egg—

see **Machines,** Kitchen Appliance Operating
also **Mixers and Whippers,** Commercial Type
also **Mixers and Whippers,** Household Type

BEESWAX

Plastic Material used as an Ingredient for Insulating Compounds; for Paraffine Wax—see Paraffine

Flexo Products Co., 1121 W. Washington Blvd., Chicago, Ill.
Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Smith & Nichols, 121 Maiden Lane, New York, N. Y.
Standard Wax & Import Co., 110 E. 42d St., New York, N. Y.
Will & Baumer Candle Co., 811 N. Alvord St., Syracuse, N. Y.

BELL ALARM RELAYS—

see **Relays,** Signal

BELL RINGING RESISTANCES—

see **Resistances,** D.C. Bell Ringing

BELL RINGING TRANSFORMERS—

see **Transformers,** Low Current and Voltage

BELL WIRE—

see **Wire,** Cotton Covered and Paraffined

BELLS, Cable End—

see **Potheads**

BELLS, Electromechanical

Spring Motor Bells Tripped by Low Voltage Current

Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Faraday—see Stanley & Patterson
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

BELLS, Indoor Alternating Current

For Operation on 110 volt or 220 volt Lighting Circuits; for Low Voltage Bells—see Bells, Indoor Transformer and Battery

Autocall Co., Shelby, Ohio
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Electro-Mechanical Machine Co., 296 Water St., New York, N. Y. "Emco"
Emco — see Electro-Mechanical Machine Co.
Faraday—see Stanley & Patterson
Haas Electric & Mfg. Co., R., 305 E. Monroe St., Springfield, Ill. "Ideal"
Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Ideal—see Haas Electric & Mfg. Co.
Lake Mfg. Co., 1723 Poplar St., Oakland, Cal.
Liberty Bell Mfg. Co., Minerva, Ohio
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
National Scale Corp., 9 Montgomery St., Chicopee Falls, Mass.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
PR—see Stanley & Patterson
Samson Electric Co., 227 Washington St. Canton, Mass.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday" "PR"

BELLS, Indoor Transformer and Battery

Low Voltage Vibrating and Single Stroke Bells; for Bells Operating directly on Lighting Circuits—see Bells, Indoor Alternating Current

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Bridgeport Switch Co., 209 Center St. Bridgeport, Conn.
Bunnell & Co., J. H., 32 Park Pl., New York, N. Y.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Edwards & Co., 140th & Exterior Sts. New York, N. Y.
Faraday—see Stanley & Patterson
Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.
Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Keil & Son, Francis, 401 E. 163d St., New York, N. Y.
Klein Electric & Mfg. Co., 14½ Young St., Tonawanda, N. Y.
Lake Mfg. Co., 1723 Poplar St., Oakland Cal.
Liberty Bell Mfg. Co., Minerva, Ohio
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
National Scale Corp., 9 Montgomery St., Chicopee Falls, Mass.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Russell Electric Co., 30 Rowan St., Danbury, Conn.
Samson Electric Co., 227 Washington St., Canton, Mass.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Signal Electric Mfg. Co., 1915 Broadway. Menominee, Mich.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

BELLS, Outdoor Weatherproof

Low Voltage Electric Bells designed for Outdoor use; for Weatherproof Bells to operate on Lighting Circuits—see Bells, Indoor Alternating Current

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Cyclone—see Schwarze Electric Co.
Edwards & Co., 140th & Exterior Sts., New York, N. Y. "Recti"
Faraday—see Stanley & Patterson
Lake Mfg. Co., 1723 Poplar St., Oakland, Cal.
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Recti—see Edwards & Co.
Schwarze Electric Co., E. Church St., Adrian, Mich. "Cyclone"
Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

BELLS, Single Stroke—

see **Bells,** Indoor Alternating Current
also **Bells,** Indoor Transformer and Battery
also **Bells,** Outdoor Weatherproof

BELLS, Skeleton

Bells with Exposed Magnets, Coils, Armatures, etc.

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Electro-Mechanical Machine Co., 296 Water St., New York, N. Y. "Emco"
Emco—see Electro-Mechanical Machine Co.
Liberty Bell Mfg. Co., Minerva, Ohio
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

BELLS, Special Tone—

see **Bells,** Indoor Alternating Current
also **Bells,** Indoor Transformer and Battery

BELLS, Unmounted

Bells, Gongs and other Sounding Devices for Mounting on Electric Bell Mechanisms

Bevin Bros. Mfg. Co., East Hampton, Conn.
East Hampton Bell Co., East Hampton, Conn.
Gong Bell Mfg. Co., East Hampton, Conn.
Hill Brass Co., N. N., East Hampton, Conn.
Reiter, G. C., 1917 Henry Ave., S. W., Canton, Ohio.

BELLS, Vibrating—

see **Bells,** Indoor Alternating Current
also **Bells,** Indoor Transformer and Battery
also **Bells,** Outdoor Weatherproof

BELLS and BUZZERS, Combined

Units Mounted on a Common Base to receive Signals from Two Sources; for Separate Bell and Buzzer Units—see Bells

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53

Duplex—see Klein Electric & Mfg. Co.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill., (Sole Distributors for Hersh Electric Specialty Co., Milwaukee, Wis.)

Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.

Hersh Electric Specialty Co.—see Fralick & Co.

Klein Electric & Mfg. Co., 14½ Young St., Tonawanda, N. Y. "Duplex"

Lake Mfg. Co., 1723 Poplar St., Oakland, Cal.

Liberty Bell Mfg. Co., Minerva, Ohio

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

PR—see Stanley & Patterson

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Schwarze Electric Co., E. Church St., Adrian, Mich.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Stanley & Patterson, 150 Varick St., New York, N. Y. "PR"

BELTING, Canvas

Canvas or Fabric Belts; for Leather Belting—see Belting, Leather; for Composition or Rubber Belting—see Belting, Rubber

Franklin Cotton Mill Co., Plum & Charles Sts., Cincinnati, Ohio

Gandy Belting Co., 726 W. Pratt St., Baltimore, Md.

Gilmer Co., L. H., Cottman & Keystone Sts., (Tacony) Philadelphia, Pa.

Hettrick Mfg. Co., Hoag & Norwood Aves., Toledo, Ohio

Johnson Belting Co., 44 Hubert St., New York, N. Y.

Rossendale-Reddaway Co., 32 Euclid Ave., Newark, N. J.

BELTING, Leather

One or more Plies of Leather; for Fabric Belting—see Belting, Canvas; for Rubber or Composition Belting—see Belting, Rubber

Alexander Bros., 18 South St., Philadelphia, Pa.

Bond Co., Charles, 617 Arch St., Philadelphia, Pa.

Charter Oak—see Palmer Belting Co.

Chicago Belting Co., 125 N. Green St., Chicago, Ill.

Chicago Rawhide Mfg. Co., 1279 Elston Ave., Chicago, Ill.

Cook Belting Co., H. N., 433 Howard St., San Francisco, Cal.

DUXBAK—see Schieren Co.

Graton & Knight Co., 356 Franklin St., Worcester, Mass.

Houghton & Co., E. F., 240 W. Somerset St., Philadelphia, Pa.

Hudson Belting Co., 79 Beacon St., Worcester, Mass.

Johnson Belting Co., 44 Hubert St., New York, N. Y.

Ladew Co., Edward R., 29 Murray St., New York, N. Y.

McCauley Belting Co., 412 Orleans St., Chicago, Ill. "Marine" "Shield"

Marine—see McCauley Belting Co.

Missouri Belting Co., 1021 S. Grand Ave., St. Louis, Mo.

Palmer Belting Co., N., 571 Iranistan Ave., Bridgeport, Conn. "Charter Oak"

Philadelphia Belting Co., Sixth & Spring Garden Sts., Philadelphia, Pa.

Rahmann & Co., George, 31 Spruce St., New York, N. Y.

Raniville Co., F., 241 Pearl St., N. W., Grand Rapids, Mich.

Rhoads & Sons, J. E., 35 N. Sixth St., Philadelphia, Pa. "Tannate"

Schieren Co., Chas. A., 30 Ferry St., New York, N. Y. "DUXBAK"

Schwartz Belting Co., 76 Murray St., New York, N. Y.

Shield—see McCauley Belting Co.

Tannate—see Rhoads & Sons

Warren Belting Co., 33 Arctic St., Worcester, Mass.

Webb Belting Co., 1501 W. 12th St., Kansas City, Mo.

Western Rawhide & Belting Co., 935 Winnebago St., Milwaukee, Wis.

BELTING, Rubber

Rubber or Composition Belts; for Leather Belting—see Belting, Leather; for Canvas or Fabric Belting—see Belting, Canvas

Acme Rubber Mfg. Co., E. State St., Trenton, N. J.

Boston Woven Hose & Rubber Co., 29 Hampshire St., Cambridge, Mass.

Cincinnati Rubber Mfg. Co., Franklin Ave., (Norwood) Cincinnati, Ohio

Copper Queen—see Pioneer Rubber Mills

Fay Rubber Products Co., Elyria, Ohio

Goodall Rubber Co., Eighth & Locust Sts., Philadelphia, Pa.

Goodrich Rubber Co., B. F., 500 S. Main St., Akron, Ohio

Goodyear Tire & Rubber Co., 1144 E. Market St., Akron, Ohio

Maguire Rubber Co., 200 Fifth Ave., New York, N. Y.

Murray Rubber Co., Trenton, N. J.

New York Belting & Packing Co., 91 Chambers St., New York, N. Y.

Pioneer Rubber Mills, 345 Sacramento St., San Francisco, Cal. "Copper Queen"

Quaker City Rubber Co., Clymer & Milnor Sts., Philadelphia, Pa.

Raybestos—Manhattan, Van Houghton Ave., Passaic, N. J.

Thermoid Rubber Co., Whitehead Rd., Trenton, N. J.

US—see United States Rubber Co.

United States Rubber Co., 1794 Broadway, New York, N. Y. "US"

Voorhees Rubber Mfg. Co., 20 Bostwick Ave., Jersey City, N. J.

BELTS, Lineman's

Heavy Leather Belts provided with Hooks for Tools and Rings for Safety Straps

Buckingham, W. H., 12 Bronson St., Binghamton, N. Y.

Buhrke Co., R. H., 4538 Fullerton Ave., Chicago, Ill.

Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"

Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.

Peirce—see Hubbard & Co.

Red Devil—see Crescent Tool Co.

BENCH GRINDERS—

see **Buffers and Grinders**

BENCH LAMPS—

see **Lamps,** Industrial Bench or Machine

BENCH SAWS—

see **Saws,** Electric Portable Bench

BENCH TYPE SCREWDRIVERS—

see **Screwdrivers,** Electric Bench Type

BENCH VISES—

see **Vises,** Machinist's and Bench

BENCHES, Portable Vise

Dismountable Type Benches or Stands for use on Construction Work; for Pipe Vises—see Vises, Pipe

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.

Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.

Henderson Electric Co., Ampere, N. J.

Jiffy—see Koch & Co.

Jones Tool Co., L. W., 2382 Grand Concourse, New York, N. Y.

Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"

Martin & Sons, H. P., Owensboro, Ky.

Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.

Penn Engineering Co., Third St. & L. V. R.R., Reading, Pa.

Toledo Pipe Threading Machine Co., 1425 Summit St., Toledo, Ohio

Vulcan—see Williams Co.

Warner & Co., George W., 342 Lafayette St., New York, N. Y.

Wilhite Machine Works, 1245 S. Hope St., Los Angeles, Cal.

Williams & Co., J. H., 400 Vulcan St., Buffalo, N. Y. "Vulcan"

BENCHES, Wire Drawing—

see **Machines,** Wire Drawing

BENDERS, Bus-Bar—

see **Benders,** Flat Metal

BENDERS, Flat Metal

Bench Tools for Bending Flat Metal Bus-Bars, etc.

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.

General Devices & Fittings Co., 1450 Buchannan Ave., S. W., Grand Rapids, Mich.

Hinman & Co., D. A., Sandwich, Ill.

BENDERS, Hand Conduit

Hickeys and Tools for Bending Conduit

Allen—see Steel City Electric Co.

American Pipe Bending Machine Co., 37 Pearl St., Boston, Mass. "Wonder"

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Tiger-Grip"

Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Brocklen Underground Electrical Mfg. Co., Glenside, Pa.

Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.

E-Z—see Henderson Electric Co.

Everstick Anchor Co., 128 Madison St., St. Louis, Mo.

Fountain—see Jenkins Mfg. Co.

Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa. "Latrobe"
Cataloged on page 50

General Electric Co., Bridgeport, Conn.

Henderson Electric Co., Ampere, N. J. "E-Z"

Hinman & Co., D. A., Sandwich, Ill.

Jenkins Mfg. Co., 35 Farrand St., Bloomfield, N. J. "Fountain"

Jiffy—see Koch & Co.

Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"

BENDERS, Hand Conduit (Contd)

Lakin—see Thomas & Betts Co.
Latrobe—see Fullman Mfg. Co.
Martin & Sons, H. P., Owensboro, Ky.
Midwest Electric Co., 1639 Walnut St., Chicago, Ill.
Parabend Corp., 609 Huron St., Toledo, Ohio
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Rittenhouse Co., A. E., Honeoye Falls, N. Y.
Ryan Engineering & Equipment Co., 1423 Plum St., Cincinnati, Ohio
Silvey Pipe Bender Co., 2215 Brighton Ave., Kansas City, Mo.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Allen"
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "Lakin"
Tiger-Grip—see Appleton Electric Co.
Wonder—see American Pipe Bending Machine Co.

BENDERS, Pipe—

see **Benders,** Hand Conduit

BIASED RELAYS—

see **Relays,** Current Control

BIMETAL—

see **Metal,** Thermostatic

BINDING POSTS—

see **Posts,** Binding

BIT EXTENSIONS—

see **Extensions,** Bit

BLANKETS, Electric Heating—

see **Pads,** Electric Heating

BLANKS, Knockout

Blanks for use in Closing Unused Holes in Metal Boxes or Cabinets

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Columbia Metal Box Co., 260 E. 143d St. New York, N. Y.
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal. "Duck"
Duck—see Diamond Electrical Mfg. Co.
Green, R. H., 1201 24th St., Oakland, Cal.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Square D Co., 6060 Rivard St., Detroit, Mich.
Thomas & Betts Co., 15 Park Pl., New York, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

BLANKS, Non-Metallic Gear—

see **Fibre,** Vulcanized
also **Insulators,** Synthetic

BLOCK MICA—

see **Mica**

BLOCKS, Cutout—

see **Blocks,** Low Voltage Cartridge Fuse
also **Cutouts,** Plug Fuse

BLOCKS, Low Voltage Cartridge Fuse

Insulated Bases having Terminals and Clips for Mounting Cartridge Fuses; for Cutouts for Plug Fuses—see Cutouts, Plug Fuse

A & W—see Armstrong & White
Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Electric Fuseguard Co., 1002 W. Main St., Charlottesville, Va.
Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
General Electric Co., Bridgeport, Conn.
Heco—see Heinemann Electric Co.
Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Heco"
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"
K-C—see King Mfg. Co.
King Mfg. Co., B. C., 302 Park Ave., Brooklyn, N. Y. "K-C"
Lyons Mfg. Co. (Mt. Carmel) New Haven, Conn.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Paiste—see Arrow-Hart & Hegeman Electric Co.
Plainville Electrical Products Co., Plainville, Conn.
Porcelain Products, Inc., Findlay, Ohio
Shawmut—see Chase-Shawmut Co.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Union—see Jefferson Electric Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BLOCKS, Meter Test—

see **Instruments,** Meter Testing

BLOCKS, Plug Fuse—

see **Cutouts,** Plug Fuse

BLOCKS, Terminal

Large Blocks of Insulating Material Carrying a number of Metallic Terminals; for Terminal Strips—see Strips, Terminal

C-H—see Cutler-Hammer
Charmond Electric Corp., 30 Church St., New York, N. Y.
Cutler-Hammer, Inc., 1215 St., Paul Ave., Milwaukee, Wis. "C-H"
Terminal Block Co., 30 Church St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BLOW TORCHES—

see **Torches,** Alcohol
also **Torches and Furnaces,** Gasoline or Kerosene Blow

BLOWERS, Electric Organ

Pressure and Suction Blowers for use in Pipe and Reed Organs

Kinetic Engineering Co., Union & Stewart Aves., Lansdowne, Pa.
Spencer Turbine Co., 484 New Park Ave., Hartford, Conn.
Zephyr Electric Organ Blower Co., Orrville, Ohio

BLOWERS, Electric Portable

Blowers for use in Cleaning, with or without Suction, Heating and Paint Spraying Attachments—see also Driers, Electric Hand and Face—also Driers, Electric Hair

Big Midget—see Sturtevant Co.
Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill. "Tornado"
Cadillac—see Clements Mfg. Co.
Clements Mfg. Co., 618 Fulton St., Chicago, Ill. "Cadillac"
Electric Blower Co., 352 Atlantic Ave., Boston, Mass. "Marvel"
General Electric Co., 1 River Rd., Schenectady, N. Y.
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
Cataloged on page 139
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio
Marvel—see Electric Blower Co.
O. K. Machine Co., Fairfield Ave. & Poplar St., Fort Wayne, Ind.
Sturtevant Co., B. F., (Hyde Park) Boston, Mass. "Big Midget"
Cataloged on page 125
Tornado—see Breuer Electric Mfg. Co.
U. S.—see United States Electrical Tool Co.
United States Electrical Tool Co., 2496 W. Sixth St., Cincinnati, Ohio "U. S."

BLOWERS, Multiblade—

see **Blowers and Fans,** Centrifugal

BLOWERS, Positive Pressure—

see **Blowers and Fans,** Centrifugal

BLOWERS, Turbo—

see **Blowers and Fans,** Centrifugal

BLOWERS and FANS, Centrifugal

Covering only Companies Cataloging this Product

American Blower Corp., 6000 Russell St., Detroit, Mich. "Sirocco"
Cataloged on page 121
Autovent Fan & Blower Co., 1814 N. Kostner Ave., Chicago, Ill. "Uniblade"
Cataloged on page 122
Buffalo Forge Co., 507 Broadway, Buffalo, N. Y.
Cataloged on page 123
Johnson Fan & Blower Co., 1319 W. Lake St., Chicago, Ill.
Cataloged on page 124
Sirocco—see American Blower Corp.
Sturtevant Co., B. F., (Hyde Park) Boston, Mass.
Cataloged on page 125
Uniblade—see Autovent Fan & Blower Co.

BLUEPRINTING MACHINES—

see **Machines,** Electric Blueprinting

BOARDS, Asbestos—

see **Asbestos,** Sheet

BOARDS, Code Signaling

Calling Systems operating Bells, Gongs, Horns, etc., at Remote Points

Autocall Co., Shelby, Ohio

Cannon Electric Development Co., 420 West Ave., 33, Los Angeles, Cal.

Faraday—see Stanley & Patterson

Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.

National Scale Corp., 9 Montgomery St., Chicopee Falls, Mass.

Schwarze Electric Co., E. Church St., Adrian, Mich.

Severance Electric Co., 1 Hartford St., Boston, Mass.

Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.

Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127

Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

BOARDS, Metal Meter

Covering only Companies Cataloging this Product

Wadsworth Electric Mfg. Co., 20 W. 11th St., Covington, Ky.
Cataloged on page 82

BOARDS, Panel—

see **Panelboards**

BOARDS, Plating Generator Control

Switchboards for Control of Plating Generators—see also Switchboards. Builders of

Columbia Electric Mfg. Co., 1292 E. 53d St., Cleveland, Ohio

Connecticut Dynamo & Motor Co., Lyon Ave. & Coit St., Irvington, N. J.

Hanson-Van Winkle-Munning Co., 104 Church St., Matawan, N. J.

L'Hommedieu & Sons Co., Chas. F., 4521 Ogden Ave., Chicago, Ill. "Reliance"

Reliance—see L'Hommedieu & Sons Co., Chas. F.

BOBESCHE—

see **Canopies,** Fixture

BODIES, End—

see **Fittings,** Fixture

BODIES, Receptacle—

see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

BODIES, Socket—

see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

BODIES, Switch—

see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

BOILERS, Electric Egg—

see **Pots,** Electric Cooking

BOLT CLEVISES—

see **Clevises,** Bolt

BOLTS, Carriage and Step

For Machine Bolts—see Bolts, Machine; for Stove Bolts—see Bolts, Stove

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.

Clark Bros. Bolt Co., Milldale, Conn.

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Everitt Co., 264 Franklin St., Boston, Mass.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Milton Mfg. Co., Milton, Pa.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

BOLTS, Crossarm

Galvanized Machine Bolts; for Block Machine Bolts—see Bolts, Machine; for Double Arming Bolts—see Bolts, Double Arming

Bessemer Galvanizing Works, Phoenix Bldg., Birmingham, Ala.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BOLTS, Double Arming

Galvanized Iron Stud Type Bolts with Four Nuts; for Crossarm Bolts—see Bolts, Crossarm

Ette—see St. Louis Malleable Casting Co.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo. "Ette"

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

BOLTS, Expansion

Wedge Shaped Nuts and Split Sleeve Shields, etc., for use with Bolts or Screws

Ackerman-Johnson Co., 625 W. Jackson Blvd., Chicago, Ill.
Cataloged on page 147

American Expansion Bolt Co., 108 N. Jefferson St., Chicago, Ill.

Brohard Co., State Rd. & Shelmire St., Philadelphia, Pa. "Climax"

Brush Nail Expansion Bolt Co., Greenwich, Conn.

Chicago Expansion Bolt Co., 125 S. Clinton St., Chicago, Ill.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Church Expansion Bolt Co., Isaac, East Norwalk, Conn.

Climax—see Brohard Co.

Diamond Expansion Bolt Co., Garwood, N. J.

E-Z—see Kempton Mfg. Corp.

Electric Railway Equipment Co., 2918 Cormany Ave., Cincinnati, Ohio

Green, R. H., 1201 24th St., Oakland, Cal.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"

Kempton Mfg. Corp., 148 W. 23d St., New York, N. Y. "E-Z"

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Line Material Co., South Milwaukee, Wis.

Little Giant—see Springfield Expansion Shield Co.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Peirce—see Hubbard & Co.

Phillips Drill Co., 1537 Cortland St., Chicago, Ill.

Rawlplug Co., 66 W. Broadway, New York, N. Y.

Richmond Screw Anchor Co., 255 Bush St., Brooklyn, N. Y.

Rockford Bolt Co., 230 Mill St., Rockford, Ill.

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.

Sebco—see Star Expansion Bolt Co.

Springfield Expansion Shield Co., 175 State St., Springfield, Mass. "Little Giant"

Star Expansion Bolt Co., 147 Cedar St., New York, N. Y. "Sebco"

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

Stop-Plug Co., 228 N. La Salle St., Chicago, Ill.

U. S. Expansion Bolt Co., 141 Franklin St., New York, N. Y.

Van Expansion Bolt Mfg. Co., 309 S. La Salle St., Chicago, Ill.

BOLTS, Eye

Short Eye Bolts with Nuts; for Galvanized Iron Anchor or Guy Bolts—see Rods, Anchor and Guy

Billings & Spencer Co., Laurel & Park Sts., Hartford, Conn.

Bridgeport Chain Co., 964 Crescent Ave., Bridgeport, Conn.

Clark Bros. Bolt Co., Milldale, Conn.

E-Z—see Oliver Iron & Steel Corp.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Line Material Co., South Milwaukee, Wis.

Milton Mfg. Co., Milton, Pa.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa. "E-Z"

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BOLTS, Lag—

see **Screws,** Lag

BOLTS, Machine

For Stove Bolts—see Bolts, Stove; for Carriage and Step Bolts—see Bolts Carriage and Step; for Galvanized Crossarm Bolts—see Bolts, Crossarm

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Bayonne Bolt Corp., 17 Battery Pl., New York, N. Y.

Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.

Clark Bros. Bolt Co., Milldale, Conn.

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Everitt Co., 264 Franklin St., Boston, Mass.

Foster Bolt & Nut Mfg. Co., 3556 E. 72d St., Cleveland, Ohio

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Milton Mfg. Co., Milton, Pa.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

BOLTS, Machine (Continued)

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"
Cataloged on page 168

Promco—see Progressive Mfg. Co.

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

Union Screw & Mfg. Co., 207 S. Main St., Pittsburgh, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BOLTS, Spacing—

see **Bolts,** Double Arming

BOLTS, Step—

see **Bolts,** Carriage and Step

BOLTS, Stove

For Machine Bolts—see Bolts, Machine; for Carriage and Step Bolts—see Bolts, Carriage and Step

American Hardware Corp., New Britain, Conn.

American Screw Co., 21 Stevens St., Providence, R. I.

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.

Clark Bros. Bolt Co., Milldale, Conn.

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Everitt Co., 264 Franklin St., Boston Mass.

Holtite—see Continental Wood Screw Co.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

Reading Screw Co., Norristown, Pa.

Reed & Prince Mfg. Co., Duncan Ave. Worcester, Mass.

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

BOLTS, Through—

see **Bolts,** Crossarm

BOLTS, Toggle

Bolts with a Hinged or Swinging Head for use on Hollow Walls; for Expansion Bolts—see Bolts, Expansion

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Brohard Co., State Rd. & Shelmire St., Philadelphia, Pa. "Climax"

Chicago Expansion Bolt Co., 125 S. Clinton St., Chicago, Ill.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Church Expansion Bolt Co., Isaac, East Norwalk, Conn.

Climax—see Brohard Co.

Diamond Expansion Bolt Co., Garwood, N. J.

Paine Co., 2951 Carroll Ave., Chicago, Ill.

Sebco—see Star Expansion Bolt Co.

Star Expansion Bolt Co., 147 Cedar St., New York, N. Y. "Sebco"

U. S. Expansion Bolt Co., 141 Franklin St., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wrigley Co., Thomas, 613 W. Lake St., Chicago, Ill.

BOLTS, "U"

"U"-Shaped Bolts with Both Ends Threaded

Clark Bros. Bolt Co., Milldale, Conn.

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Milton Mfg. Co., Milton, Pa.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Peirce—see Hubbard & Co.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Southern Electrical Equipment Co., 314 W. Bland St., Charlotte, N. C.

Sturdy Mfg. Co., 41 Commercial St., Newark, N. J. "Sturmco"

Sturmco—see Sturdy Mfg. Co.

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BOOK LAMPS—

see **Lamps,** Portable Clamp

BOOSTERS—

see **Generators**
also **Motors**

BORDER LIGHT CABLE—

see **Cord,** Heavy Duty

BORDER LIGHTS—

see **Fixtures,** Stage Lighting

BORING MACHINES—

see **Machines,** Joist Boring

BOTTOM KNOBS—

see **Fittings,** Fixture

BOUNDRY LIGHTS—

see **Fixtures,** Airport Lighting

BOWL HEATER UNITS—

see **Elements,** Radiant Heater

BOX BRACKETS—

see **Hangers,** Outlet Box

BOX BUSHINGS—

see **Bushings,** Box
also **Bushings,** Conduit

BOX CONNECTORS—

see **Fittings,** Flexible Metallic Conduit
also **Fittings,** Threaded Conduit

BOX HANGERS—

see **Hangers,** Outlet Box

BOX SIGNS—

see **Signs,** Internally Lighted Box

BOXES, Adjustable Floor

Metal Boxes with Adjustable Covers; for Floor Receptacle Boxes—see Boxes, Floor Receptacle

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo. "FA"

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Burns, James F., 713 Cherry St., Philadelphia, Pa. "Readytouse"

FA—see Adam Electric Co.

Fountain—see Jenkins Mfg. Co.

Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa. "Latrobe"
Cataloged on page 50

General Electric Co., Bridgeport, Conn.
Cataloged on page 66

Jenkins Mfg. Co., 35 Farrand St., Bloomfield, N. J. "Fountain"

Latrobe—see Fullman Mfg. Co.

R. & S.—see Russell & Stoll Co.

Readytouse—see Burns, James F.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

BOXES, Branch—

see **Boxes,** Pull

BOXES, Corrugated Fibre

Companies equipped to produce Special Corrugated Fibre Shipping Cartons

Gaylord, Inc., Robert, 2817 S. 11th St., St. Louis, Mo.

Hinde & Dauch Paper Co., 325 Decatur St., Sandusky, Ohio

Mid-West Box Co., 111 W. Washington St., Chicago, Ill.

National Folding Box Co., James St., New Haven, Conn.

Pequot Mfg. Co., Thompson Ave. & Manley St., Glendale, N. Y.

Thompson & Norris Co., 212 Concord St., Brooklyn, N. Y.

BOXES, Cutout and Switch

Cast Iron or Pressed Steel Boxes with Hinged Covers; for Outlet Boxes—see Boxes, Outlet and Switch; for Pull Boxes—see Boxes, Pull

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo. "FA"

Adapti Co., 2996 E. 72d St., Cleveland, Ohio

All-Steel-Equip Co., Aurora, Ill.

Aurora Steel Products Co., Aurora, Ill.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.

Burns, James F., 713 Cherry St., Philadelphia, Pa. "Readytouse"

C. & P. Electric Works, Shaws Lane, Springfield, Mass.

Cole Metal Products Co., 33 Crescent St., Long Island City, N. Y.

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"

Columbia Metal Box Co., 260 E. 143d St., New York, N. Y.

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Electric Panelboard Co., 426 Exchange St., Rochester, N. Y.

FA—see Adam Electric Co.

Federal Steel Products Co., 2 Ave. L, Newark, N. J.

Fouch Electric Mfg. Co., 105 N. Ninth Street., Portland, Ore.

G & W Electric Specialty Co., 7788 Dante Ave., Chicago, Ill.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hauer, Inc., J. B., Driggs Ave. & N. 11th St., Brooklyn, N. Y.

Karp Metal Products Co., 129 30th St., Brooklyn, N. Y.

Kirtland Electric Construction Co., 34 Herkimer St., Albany, N. Y.

Laganke Electric Co., 2400 Woodland Ave., Cleveland, Ohio
Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio
Mansfield Electric Hardware Co., Mansfield, Ohio
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Noark—See Colt's Patent Fire Arms Mfg. Co.
Penn Electrical Co., Irwin, Pa.
Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio
Readytouse—see Burns, James F.
Robertson Electric Construction Co., 126 S. Elmwood Ave., Buffalo, N. Y.
Square D Co., 6060 Rivard St., Detroit, Mich.
Star Metal Box Co., 246 46th St., Brooklyn, N. Y.
Superior Switchboard & Devices Co., 424 Schroyer Ave., S. W., Canton, Ohio
Universal Metal Box & Products Co., 144 Bleecker St., Newark, N. J.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wurdack Electric Mfg. Co., Wm., 4444 Clayton Ave., St. Louis, Mo.

BOXES, Fibre—

see **Boxes,** Corrugated Fibre

BOXES, Fire Alarm

Metal Boxes, Pull Lever and Break Glass Types for Indoor Use—also large Outdoor Types for Pole Mounting

Atmo Automatic Fire Alarm Co., 175 Centre St., Nutley, N. J.
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Autocall Co., Shelby, Ohio
Bunnell & Co., J. H., 32 Park Pl., New York, N. Y. "Jove"
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Edwards & Co., 140th & Exterior St., New York, N. Y.
Faraday—see Stanley & Patterson
Foote, Pierson & Co., 75 Hudson St., Newark, N. J.
Gamewell Co., 1238 Chestnut St., Newton Upper Falls, Mass.
Garrison Fire Detecting System, 79 Madison Sq., New York, N. Y.
Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Jove—see Bunnell & Co.
Low Tension Electric Co., 60 Ann St., New York, N. Y.
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Samson Electric Co., 227 Washington St., Canton, Mass.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Sterling Siren Fire Alarm Co., 47 Allen St., Rochester, N. Y.
Usem Co., 515 W. 29th St., New York, N. Y.
Utica Fire Alarm Telegraph Co., 502 Oriskany St., W., Utica, N. Y.

BOXES, Fixture Outlet—

see **Receptacles,** Fixture Supporting

BOXES, Floor—

see **Boxes,** Adjustable Floor
also **Boxes,** Floor Receptacle

BOXES, Floor Receptacle

Waterproof Outlet Boxes complete with Plug Receptacle and Cover Plates; for Adjustable Floor Boxes — see Boxes, Adjustable Floor

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.
Arnessen Electric Co., 13 Water St., New York, N. Y.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
Fountain—see Jenkins Mfg. Co.
Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa. "Latrobe"
Cataloged on page 50
General Electric Co., Bridgeport, Conn.
Cataloged on page 66
Jenkins Mfg. Co., 35 Farrand St., Bloomfield, N. J. "Fountain"
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 117
Latrobe—see Fullman Mfg. Co.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Patterson—see Stanley & Patterson
Pratt Chuck Co., Main St., Frankfort, N. Y.
R. & S.—see Russell & Stoll Co.
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."
Stanley & Patterson, 150 Varick St., New York, N. Y. "Patterson"
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.
Thomas & Betts Co., 15 Park Pl., New York, N. Y.

BOXES, Junction—

see **Boxes,** Pull

BOXES, Letter and Bell

Metal Mail Boxes combined with a Bell or Telephone for Signaling Purposes

American Hardware Corp., New Britain Conn.
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Cole Metal Products Co., 33 Crescent St., Long Island City, N. Y.
Couch Co., S. H., Arlington St., Norfolk Downs, Mass.
Coy Mfg. Works, 3101 S. Canal St., Chicago, Ill.
Deveau—see Stanley & Patterson
Dictograph Products Corp., 220 W. 42d St., New York, N. Y.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Samson Electric Co., 227 Washington St., Canton, Mass.
Standard Electric Mfg. Co., 925 Wrightwood Ave., Chicago, Ill.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Deveau"
United Metal Box Co., 40-36 22d St., Long Island City, N. Y.

BOXES, Mail—

see **Boxes,** Letter and Bell

BOXES, Meter Service

Steel Boxes, Protection Trims or Combined Safety Service Entrance Switches used to protect Meters

American Electric Switch Co., Minerva, Ohio
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Aurora Steel Products Co., Aurora, Ill.
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Donley Bros. Co., 13900 Miles Ave., Cleveland, Ohio.
General Electric Co., Bridgeport, Conn.
Killark Electric Mfg. Co., 3940 Easton Ave., St. Louis, Mo.
Lewis Products Co., M. J., Fifth St. & Girard Ave., Philadelphia, Pa.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Palmer Electric & Mfg. Co., Pond & Exchange Sts., Waltham, Mass.
Reading Sheet Metal Products Co., Front & Chestnut Sts., Reading, Pa. "R. S. M."
R. S. M.—see Reading Sheet Metal Products Co.
Square D Co., 6060 Rivard St., Detroit, Mich.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Wadsworth Electric Mfg. Co., 20 W. 11th St., Covington, Ky.
Cataloged on page 82
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 98

BOXES, Outlet and Switch

Steel Wall Outlet and Ceiling Boxes for use with Concealed Pipe or Flexible Conduit

Adapti Co., 2996 E. 72d St., Cleveland, Ohio
Adell Mfg. Co., 61 E. River St., Orange, Mass.
All-Steel-Equip Co., Aurora, Ill.
American Circular Loom Co., 90 West St., New York, N. Y.
Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
Bremer Electric Mfg. Co., 139 N. Seventh St., Philadelphia, Pa.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Burns, James F., 713 Cherry St., Philadelphia, Pa. "Readytouse"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport Conn.
Dunlap Co., John, Carnegie, Pa.
Economy—see National Electric Products Corp.
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fountain—see Jenkins Mfg. Co.
Garvin & Co., Sam, 5124 W. Lake St., Chicago, Ill.
Gee Vee—see Gillette-Vibber Co.
Gem—see Jefferson Electric Co.
General Electric Co., Bridgeport, Conn.
Cataloged on pages 65-66
Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Gee Vee"
H & H—see Arrow-Hart & Hegeman Electric Co.
Hub-Way Mfg. Co., Hubbard, Ohio.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem" "Union"
Jenkins Mfg. Co., 35 Farrand St., Bloomfield, N. J. "Fountain"
Knight Co., J. G., 32 Morton St., Brooklyn, N. Y.
Mansfield Electric Hardware Co., Mansfield, Ohio
Mefco—see Flaherty Co.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.

BOXES, Outlet and Switch (Continued)

Metropolitan Electric Mfg Co., Boulevard & 14th St., Long Island City, N. Y.
Meyers Safety Switch Co., 419 Tehama St., San Francisco, Cal.
Midwest Electric Co., 1639 Walnut St., Chicago, Ill.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Economy"
Paine Co., 2951 Carroll Ave., Chicago, Ill.
Powell Pressed Steel Co., Hubbard, Ohio
Pratt Chuck Co., Main St., Frankfort, N. Y.
Raco—see Roach-Appleton Mfg. Co.
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Readytouse—see Burns, James F.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Star—see Steel City Electric Co.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Star"
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"
Union—see Jefferson Electric Co.
Universal Metal Box & Products Co., 144 Bleecker St., Newark, N. J.
Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.

BOXES, Packing—

see **Boxes,** Corrugated Fibre

BOXES, Portable Plugging—

see **Plugs,** Extension Cord Connecting

BOXES, Pull

Steel Pull Boxes for use with Pipe or Flexible Conduit; for Outlet and Switch Boxes—see Boxes, Outlet and Switch

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Aurora Steel Products Co., Aurora, Ill.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
Burns, James F., 713 Cherry St., Philadelphia, Pa. "Readytouse"
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Columbia Metal Box Co., 260 E. 143d St., New York, N. Y.
Electric Panelboard Co., 426 Exchange St., Rochester, N. Y.
Federal Steel Products Co., 2 Ave. L, Newark, N. J.
Fountain—see Jenkins Mfg. Co.
General Electric Co., Bridgeport, Conn.
Hauer, Inc., J. B., Driggs Ave. & N. 11th St., Brooklyn, N. Y.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"
Jenkins Mfg. Co., 35 Farrand St., Bloomfield, N. J. "Fountain"
Karp Metal Products Co., 129 30th St., Brooklyn, N. Y.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Noark—see Colt's Patent Fire Arms Mfg. Co.
R. & S.—see Russell & Stoll Co.
Raco—see Roach-Appleton Mfg. Co.
Ralco Mfg. Co., 141 N. Albany Ave., Chicago, Ill.
Readytouse—see Burns, James F.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."
Square D Co., 6060 Rivard St., Detroit, Mich.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.
Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.
Cataloged on page 52
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"
Union—see Jefferson Electric Co.
Universal Metal Box & Products Co., 144 Bleecker St., Newark, N. J.
Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.

BOXES, Resistance—

see **Boxes,** Standard Resistance

BOXES, Rubber Battery—

see **Rubber,** Hard

BOXES, Service—

see **Boxes,** Cutout and Switch
also **Boxes,** Meter Service

BOXES, Standard Resistance

Calibrated Variable Resistances

Biddle, James G., 1211 Arch St., Philadelphia, Pa.
Central Scientific Co., 460 E. Ohio St., Chicago, Ill.
General Electric Co., Bridgeport, Conn.
General Radio Co., 30 State St., Cambridge, Mass.
Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Queen—see Gray Instrument Co.
Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.
States Co., 17 New Park Ave., Hartford, Conn.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y.

BOXES, Starting—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

BOXES, Switch—

see **Boxes,** Cutout and Switch
also **Boxes,** Outlet and Switch
also **Boxes,** Watertight Outlet and Switch

BOXES, Wall Fan

Covering only Companies Cataloging this Product

Autovent Fan & Blower Co., 1814 N. Kostner Ave., Chicago, Ill.
Cataloged on page 122
Breezo—see Buffalo Forge Co.
Buffalo Forge Co., 507 Broadway, Buffalo, N. Y "Breezo"
Cataloged on page 123

BOXES, Watertight Outlet and Switch

Covering only Companies Cataloging this Product

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 110
General Electric Co., Bridgeport, Conn.
Cataloged on page 66

BRACES, Alley Arm—

see **Braces,** Crossarm

BRACES, Angle and Ratchet

Braces for use with Auger Bits, etc.; for Breast Drills—see Drills, Hand and Breast

Goodell-Pratt Co., Wells St., Greenfield, Mass.
Jennings Mfg. Co., Russell, Chester, Conn.
Millers Falls Co., Millers Falls, Mass.
North Bros. Mfg. Co., cor. American St. & Lehigh Ave., Philadelphia, Pa. "Yankee"
Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"
Pexto—see Peck, Stow & Wilcox Co.
Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.
Yankee—see North Bros. Mfg. Co.

BRACES, Back Arm—

see **Braces,** Crossarm

BRACES, Bit—

see **Braces, Angle and Ratchet**

BRACES, Crossarm

Galvanized Bar or Angle Iron Braces; for Double Arming Bolts—see Bolts, Double Arming

Bessemer Galvanizing Works, Phoenix Bldg., Birmingham, Ala.
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Seyler Mfg. Co., Sharpsburg, P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wrought Washer Mfg. Co., 54 S. Bay St., Milwaukee, Wis.

BRACES, Drop Type—

see **Braces,** Crossarm

BRACES, Ratchet—

see **Braces,** Angle and Ratchet

BRACES, Vertical Arm—

see **Braces,** Crossarm

BRACKET CLAMPS—

see **Clamps,** Crossarm

BRACKETS, Break Arm—

see **Brackets,** Metal Insulator

BRACKETS, House—

see **Brackets,** Metal Insulator

BRACKETS, Insulator—

see **Brackets,** Metal Insulator
also **Brackets,** Wood Insulator

BRACKETS, Metal Insulator

For Supporting Insulators from Poles or Buildings

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn. "Holdem"
Eastern Malleable Iron Co., Naugatuck, Conn.
Electrical Engineers Equipment Co., Melrose Park, Ill. "Three E"
Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio
General Electric Co., 1 River Rd., Schenectady, N. Y.
Holdem—see Brady Electric & Mfg. Co.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"
L-F Mfg. Co., 428 Hoboken Ave., Jersey City, N. J.
Line Material Co., South Milwaukee, Wis.
Malleable Iron Fittings Co., Branford, Conn.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.
O-B—see Ohio Brass Co.
Ohio Brass Co., Mansfield, Ohio. "O-B"
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Peirce—see Hubbard & Co.
Pemco—see Philadelphia Electrical Mfg. Co.
Philadelphia Electrical Mfg. Co., 1228 N. 31st St., Philadelphia, Pa. "Pemco"

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Three E—see Electrical Engineers Equipment Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BRACKETS, Outlet Box—
see **Hangers,** Outlet Box

BRACKETS, Street Hood—
see **Fixtures,** Street Lighting Pole Bracket

BRACKETS, Transposition—
see **Brackets,** Metal Insulator

BRACKETS, Wall—
see **Brackets,** Metal Insulator
also **Brackets,** Wood Insulator
also **Fixtures,** Industrial Indoor
also **Fixtures,** Public Building Indoor
also **Fixtures,** Public Building Outdoor
also **Fixtures,** Residential Indoor
also **Fixtures,** Residential Outdoor

BRACKETS, Wood Insulator
For Supporting Insulators from Poles or Buildings

American Crossarm & Conduit Co., 332 S. Michigan Ave., Chicago, Ill.
American Forest Products Co., 122 E. 42d St., New York, N. Y.
Carolina Cross Arm Co., Elkin, N. C.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gravely, B. F. & R. P., Martinsville, Va.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
Locust Pin Co., Front Royal, Va.
National Pin & Bracket Co., North Vernon, Ind.
Newport Pin Mill, Newport, Pa.
Oregon Handle Mfg. Co., Newberg, Ore.
Petertyl, Victor, 130 State St., Traverse City, Mich.
Port Royal Pin Mill, Port Royal, Pa.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Southern Pine Mfg. Co., Paducah, Ky.
Valley Mfg. Co., Woodburn, Ore.

BRAIDING MACHINES—
see **Machines,** Wire Braiding and Taping

BRANCH BOXES—
see **Boxes,** Pull

BRANCH SWITCHES—
see **Switches,** Panel

BRANDERS, Electrically Heated
Electrically Heated Branding Irons

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Brand-It—see Burning Brand Co.
Burning Brand Co., 2522 Congress St., Chicago, Ill. "Brand-It"
Dover Mfg. Co., Dover, Ohio
Electric Soldering Iron Co., 139 W. 17th St., New York, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Schmidt, Inc., Geo. T., 4100 Ravenswood Ave., Chicago, Ill.
Vulcan Electric Heating Co., 225 Varick St., New York, N. Y.
Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa.
Woodman Mfg. & Supply Co., R., 71 Oliver St., Boston, Mass.

BRASS CASTINGS—
see **Castings,** Brass or Copper

BRASS CONDUIT—
see **Conduit,** Brass or Aluminum

BRASS, Rod—
see **Brass and Copper,** Sheet and Rod

BRASS, Sheet—
see **Brass and Copper,** Sheet and Rod

BRASS TUBING—
see **Tubing,** Brass or Copper

BRASS WIRE—
see **Wire,** Bare Copper or Brass

BRASS and COPPER, Sheet and Rod
For Brass or Copper Tubing—see Tubing, Brass or Copper; for Brass or Copper Castings—see Castings, Brass or Copper

American Brass Co., Waterbury, Conn. "Anaconda" "Everdur" "Tobin"
American Copper Products Corp., 233 Broadway, New York, N. Y.
American Manganese Bronze Co., (Holmesburg) Philadelphia, Pa.
Anaconda—see American Brass Co.
Baltimore Copper Smelting & Rolling Co., Fourth Ave. & Fifth St., Baltimore, Md.
Baltimore Tube Co., Ostend & Wicomico Sts., Baltimore, Md.
Bridgeport Brass Co., E. Main St., Bridgeport, Conn. "Ledrite"
Bristol Brass Corp., Bristol, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Dallas Brass & Copper Co., 820 Orleans St., Chicago, Ill.
Everdur—see American Brass Co.
Ledrite—see Bridgeport Brass Co.
Michigan Copper & Brass Co., 5851 W. Jefferson Ave., Detroit, Mich. "Wolverine"
Mueller Brass Co., Port Huron, Mich.
National Brass & Copper Co., Lisbon, Ohio
Omega—see Riverside Metal Co.
Riverside Metal Co., Riverside, N. J. "Omega"
Rome Brass & Copper Co., Bouck St., Rome, N. Y.
Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169
Seymour Mfg. Co., Seymour, Conn.
Tobin—see American Brass Co.
Wolverine—see Michigan Copper & Brass Co.

BREAK ARM BRACKETS—
see **Brackets,** Metal Insulator

BREAK GLASS BOXES—
see **Boxes,** Fire Alarm

BREAKERS, Air Circuit
Carbon Circuit Breakers; for Oil Circuit Breakers—see Breakers, Oil Circuit; for Combined Circuit Breaker and Starting Switches for use on Appliances — see Switches, Combined Circuit Breaker and Starting

Ahlers, Bruno H., 8526 89th St., Woodhaven, N. Y.
Automatic Reclosing Circuit Breaker Co., Sixth St. & Indianola Ave., Columbus, Ohio
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J.
I-T-E Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa. "U-Re-Lite"
Cataloged on pages 76-77
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.
Sundh Electric Co., 5 Ave., C, Newark, N. J.
Trumbull-Vanderpoel Electric Mfg. Co., Bantam, Conn.
U-Re-Lite—see I-T-E Circuit Breaker Co.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 99

BREAKERS, Circuit—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

BREAKERS, Circuit Pneumatic Remote Control
Circuit Breakers Operated by Compressed Air

I-T-E-Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.

BREAKERS, Oil Circuit
Circuit Interrupters Arcing in Oil; for Air Circuit Breakers—see Breakers, Air Circuit

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
American Brown Boveri Co., Camden, N. J.
Automatic Switch Co., 517 E. Larned St., Detroit, Mich.
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Kelman Electric & Mfg. Co., 1650 Naud St., Los Angeles, Cal.
Pacific Electric Mfg. Corp., (Bay View) San Francisco, Cal.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BREAST DRILLS—
see **Drills,** Hand and Breast

BREWERY CORD—
see **Cord,** Heavy Duty

BRICK DRILLS—
see **Drills,** Brick or Concrete

BRIDGE LAMPS—
see **Lamps,** Residential Floor or Bridge

BRIDGES, Wheatstone—
see **Boxes,** Standard Resistance

BRIDLE RINGS—
see **Rings,** Bridle

BROILERS, Household—
see **Ovens,** Electric Household
also **Ranges,** Electric Household
also **Stoves,** Electric Table

BRONZE CASTINGS—
see **Castings,** Brass or Copper

BRONZE, Spring
Covering only Companies Cataloging this Product

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169

BRONZE WIRE—
see **Wire,** Bare Copper or Brass

BRUSH HOLDERS—
see **Holders,** Brush

BRUSHES, Carbon and Graphite
For use as Current Collecting and Distributing Devices for Generators, Motors, Magnetos, etc.

BBB—see Becker Bros. Electrical Corp.
Becker Bros. Electrical Corp., 25 N. Jefferson St., Chicago, Ill. ""BBB"
Blanck & Carrier Corp., 115 W. 63d St., New York, N. Y.
Boxill-Bruel Carbon Co., Columbia Park, Ohio
Calebaugh Self-Lubricating Carbon Co., 1503 Columbia Ave., Philadelphia, Pa.
Carbon Engineering Corp., Slinger, Wis. "Carenco"
Carbon & Graphite Products Co., 227 W. Broadway, New York, N. Y.
Carenco—see Carbon Engineering Corp.
Champion—see Snarr & Co.
Dixon Crucible Co., Joseph, Monmouth St., Jersey City, N. J.
Electro-Nite Carbon Co., 308 N. Fourth St., Philadelphia, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Henrite Products Co., 98 Park Pl., New York, N. Y.
Keystone Carbon Co., Emporium, Pa.
Kohlenite Products Co., 417 W. 28th St., New York, N. Y.
Le Carbone Co., 15th & Bloomfield Sts., Hoboken, N. J.
Le Valley-Vitae Carbon Brush Co., 70 E. 45th St., New York, N. Y.
Morganite Brush Co., 3320 Anable Ave., Long Island City, N. Y.
National Carbon Co., 11700 Madison Ave., Cleveland, Ohio. "Three Pyramid"
New Process Carbon Co., 1503 Columbia Ave., Philadelphia, Pa.
Ohio Carbon Co., 8219 Almira Ave., Cleveland, Ohio
Pittsburgh Carbon Brush Co., 127 Fancourt St., Pittsburgh, Pa.
Pure Carbon Co., Wellsville, N. Y.
Snarr & Co., Geo. W., 110 S. Ninth St., St. Louis, Mo. "Champion"
Speer Carbon Co., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Pa.
Superior Carbon Products, Poughkeepsie, N. Y.
Three Pyramid—see National Carbon Co.
U. S. G.—see United States Graphite Co.
United States Graphite Co., 1430 Holland St., Saginaw, Mich. "U. S. G."
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BRUSHES, Copper Leaf and Gauze
For use as Current Collecting and Distributing Devices for Generators, Motors, Magnetos, etc.

BBB—see Becker Bros. Electrical Corp.
Becker Bros. Electrical Corp., 25 N. Jefferson St., Chicago, Ill. "BBB"
Carbon & Graphite Products Co., 227 W. Broadway, New York, N. Y.
Cooley Mfg. Co., 366 W. Broadway, New York, N. Y. "Koo-Lee"
Eureka Copper Products Corp., 79 Clay St., North East, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Koo-Lee—see Cooley Mfg. Co.

BRUSHES, Electric Vacuum—
see **Cleaners,** Portable Vacuum

BRUSHES, Graphite—
see **Brushes,** Carbon and Graphite

BRUSHES, Pneumatic Paint Spray—
see **Sprayers,** Hand Paint

BRUSHES, Steel Wire
Covering only Companies Cataloging this Product

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 137

BRUSHES, Wire Gauze—
see **Brushes,** Copper Leaf and Gauze

BUFFERS and GRINDERS
Covering only Companies Cataloging these Products

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 136

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill.
Cataloged on page 120

BULB RECTIFIERS—
see **Rectifiers,** Battery Charging Bulb

BULB SYRINGES—
see **Syringes,** Bulb

BULBS, Incandescent Lamp
The Glass Inclosing Portion which surrounds the Filament of an Incandescent Lamp; for Incandescent Lamp Bases—see Bases, Incandescent Lamp

Corning Glass Works, Corning, N. Y.
Fayette Glass Bulb Co., 229 21st St., Brooklyn, N. Y.
General Electric Co., Union Trust Bldg., Cleveland, Ohio
Herzoc Miniature Lamp Co., W. F., Vernon Ave. & 13th St., Long Island City, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

BULLETIN BOARD REFLECTORS—
see **Shades,** Metal and Glass

BULLSEYES, Glass
Colored or Plain Glass Specialties for use on Indicating Switches, etc.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Corning Glass Works, Corning, N. Y.
Deknatal & Son, J. A., 222d St. & 96th Ave., Queens Village, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.
H & H—see Arrow-Hart & Hegeman Electric Co.
Jefferson Glass Co., Follansbee, W. Va.
McKee Glass Co., Jeannette, Pa.
Macbeth-Evans Glass Co., Charleroi, Pa
Rochester Glass Products Co., 29 N. Water St., Rochester, N. Y.
Sneath Glass Co., Wabash Ave., Hartford City, Ind.

BURGLAR ALARM RELAYS—
see **Relays,** Signal

BURGLAR ALARM SWITCHES—
see **Switches,** Burglar Alarm
also **Switches,** Key Operated

BURGLAR ALARMS, Manual—
see **Alarms,** Manual Burglar

BURNING OUTFITS—
see **Pens,** Pyrograph

BURNING TORCHES—
see **Torches,** Electric Paint Burning

BURRS, Rivet—
see **Washers,** Brass or Copper

BUS-BAR BENDERS—
see **Benders,** Flat Metal

BUS-BAR STOCK—
see **Aluminum,** Sheet, Rod and Tube
also **Brass and Copper,** Sheet and Rod
also **Tubing,** Brass or Copper

BUS-BAR TEST CLIPS—
see **Clamps,** Bus-Bar Test

BUSHING ADAPTERS—
see **Adapters,** Conduit Bushing

BUSHINGS, Box
Composition or Porcelain Bushings for use in Knockouts of Metal Boxes in Cleat, Knob and Tube Wiring Systems

A & W—see Armstrong & White
Adapti Co., 2996 E. 72d St., Cleveland Ohio
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
Burns, James F., 713 Cherry St., Philadelphia, Pa. "Readytouse"
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Columbia Metal Box Co., 260 E. 143d St., New York, N. Y.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Loctite—see Stern-Brown
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Radworth Mfg. Corp., 302 Park Ave., Brooklyn, N. Y.
Readytouse—see Burns, James F.
Square D Co., 6060 Rivard St., Detroit, Mich.
Stern-Brown, 257 W. 17th St., New York, N. Y. "Loctite"
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"

BUSHINGS, Conduit
Threaded Collars for use on Exposed Ends of Conduit

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio
Adapti Co., 2996 E. 72d St., Cleveland, Ohio
All-Steel-Equip Co., Aurora, Ill.
American Circular Loom Co., 90 West St., New York, N. Y.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bondit—see Gillette-Vibber Co.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
C. S. T.—see Chicago Steel Tank Co.
C. W. P.—see Cleveland Wrought Products Co.
Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."
Cleveland Wrought Products Co., W. 60th St. at Denison Ave., Cleveland, Ohio "C. W. P."
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"
Gee Vee—see Gillette-Vibber Co.
Gem—see Jefferson Electric Co.
General Electric Co., Bridgeport, Conn. Cataloged on page 65
Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Bondit" "Gee Vee"
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem"
Kwikon—see Fralick & Co.
Mefco—see Flaherty Co.
Midwest Electric Co., 1639 Walnut St., Chicago, Ill.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.
O. Z. Cable Support Co., 45 Bergen St., Brooklyn, N. Y.
Pittsburgh Valve & Fittings Co., Barberton, Ohio
Pratt Chuck Co., Main St., Frankfort, N. Y.
Raco—see Roach-Appleton Mfg. Co.
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Rockford Metal Specialty Co., Rockford, Ill.
Star—see Steel City Electric Co.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Star"
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"
Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Cataloged on page 101

BUSHINGS, Fixture—

see **Fittings,** Fixture

BUSHINGS, Socket

Threaded Tubes of Composition or Rubber; for Socket Rings — see Rings, Socket

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Brandywine Fibre Products Co., 14th & Walnut Sts., Wilmington, Del.
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. Cataloged on page 57
H & H—see Arrow-Hart & Hegeman Electric Co.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Loctite—see Stern-Brown
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
Scranton Button Co., Scranton, Pa.
Stern-Brown, 257 W. 17th St., New York, N. Y. "Loctite"

BUTT WELDERS—

see **Welders,** Arc

BUTTONS, Desk Push—

see **Buttons,** Flush Push

BUTTONS, Floor and Attachment Push

Circuit Closing Type for Flush Mounting and Foot Operation

Ansonia Electrical Co., 63 Main St., Ansonia, Conn. Cataloged on page 53
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

BUTTONS, Flush Push

Circuit Closing Type for Mounting Flush with the Surface; for Surface Push Buttons—see Buttons, Surface Push

Altman—see Minerallac Electric Co.
Ansonia Electrical Co., 63 Main St., Ansonia, Conn. Cataloged on page 53
Anthony Machine & Electric Works, 19 High St., Boston, Mass.
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Bridgeport Switch Co., 209 Center St., Bridgeport, Conn.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Couch Co., S. H., Arlington St., Norfolk Downs, Mass.
Deveau—see Stanley & Patterson
Edwards & Co., 140th & Exterior Sts. New York, N. Y.
Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Low Tension Electric Co., 60 Ann St., New York, N. Y.
Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill. "Altman"
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Operite"
Operite—see Morse Co.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Deveau"

BUTTONS, High Voltage Push

Contact Making Push Buttons with Non-Arcing Contact Points

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
C-H—see Cutler-Hammer
Circle T—see Trumbull Electric Mfg. Co.
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Faraday—see Stanley & Patterson
General Electric Co., 1 River Rd., Schenectady, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Russell Electric Co., 30 Rowan St., Danbury, Conn.
Square D Co., 6060 Rivard St., Detroit, Mich.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

BUTTONS, Luminous—

see **Pendants,** Luminous

BUTTONS, Pendent Push

Circuit Closing Type of Wood or Composition for Mounting on a Flexible Cord

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Couch Co., S. H., Arlington St., Norfolk Downs, Mass.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Faraday—see Stanley & Patterson
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Operite"
Operite—see Morse Co.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

BUTTONS, Push—

see **Buttons,** Floor and Attachment Push
also **Buttons,** Flush Push
also **Buttons,** High Voltage Push
also **Buttons,** Pendent Push
also **Buttons,** Surface Push

BUTTONS, Surface Push

Circuit Closing Type for Mounting on the Surface; for Flush Push Buttons—see Buttons, Flush Push

Ansonia Electrical Co., 63 Main St., Ansonia, Conn. Cataloged on page 53
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Danbury Electric Mfg. Co., Danbury, Conn.
Deveau—see Stanley & Patterson
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.
Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Operite"
Operite—see Morse Co.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Deveau"
Tiffany Mfg. Co., 42 Spring St., Newark, N. J.
Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

BUZZERS, Battery—

see Buzzers, Indoor Transformer and Battery
also **Buzzers,** Watchcase

BUZZERS, Indoor Alternating Current

For Operation on 110 volt or 220 volt Lighting Circuits; for Low Voltage Buzzers—see Buzzers, Indoor Transformer and Battery

Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Autocall Co., Shelby, Ohio
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Edwards & Co., 140th & Exterior Sts., New York, N. Y. "Recti"

BUZZERS, Indoor Alternating Current (Continued)

Lake Mfg. Co., 1723 Poplar St., Oakland, Cal.

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Recti—see Edwards & Co.

Schwarze Electric Co., E. Church St., Adrian, Mich.

BUZZERS, Indoor Transformer and Battery

Low Voltage General Service Buzzers to give a Signal of Moderate Intensity—see also Buzzers, Watchcase

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 5

Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Dixie—see Edwards & Co.

Edwards & Co., 140th & Exterior Sts., New York, N. Y. "Dixie"

Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.

Klein Electric & Mfg. Co., 14½ Young St., Tonawanda, N. Y.

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

PR—see Stanley & Patterson

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Schwarze Electric Co., E. Church St., Adrian, Mich.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.

Standard Electric Time Co., 89 Logan St., Springfield, Mass.

Stanley & Patterson, 150 Varick St., New York, N. Y. "PR"

BUZZERS, Watchcase

Small Low Voltage Buzzers enclosed in a Finished Metal Case, for use in Offices or Small Rooms; for General Service Buzzers—see Buzzers, Indoor Transformer and Battery

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 5

Edwards & Co., 140th & Exterior Sts. New York, N. Y.

PR—see Stanley & Patterson

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Stanley & Patterson, 150 Varick St., New York, N. Y. "PR"

BUZZERS and BELLS—

see **Bells and Buzzers, Combined**

BY-PASS CONDENSERS—

see **Condensers,** Paper

CABINET VENTILATORS—

see **Heaters,** Unit Type

CABINETS, Distribution—

see **Panelboards**

CABINETS, Fuse—

see **Panelboards**

CABINETS, Lamp Display

Covering only Companies Cataloging this Product

Eveready—see National Carbon Co.

National Carbon Co., 30 E. 42d St., New York, N. Y. "Eveready"
Cataloged on page 133

CABINETS, Refrigerator

Refrigerator Cabinets with Space for Refrigerating Coils

Alaska Refrigerator Co., Muskegon, Mich.

Banta Refrigerator Co., Clearfield, Pa.

Belding-Hall Co., Belding, Mich.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bohn Refrigerator Co., 1350 University Ave., St. Paul, Minn.

Challenge Refrigerator Co., Grand Haven, Mich.

Crystal Refrigerator Co., Fremont, Neb.

Ehrlich & Sons Mfg. Co., H., Lake & Colorado Aves., St. Joseph, Mo.

Erie Metal Furniture Co., Buffalo Rd., Erie, Pa.

Gibson Refrigerator Co., Greenville, Mich.

Gloekler Co., Bernard, 1633 Penn Ave., Pittsburgh, Pa.

Heintz Mfg. Co., Front St. & Olney Ave., Philadelphia, Pa. "Steelprest"

Heinz & Munschauer, Superior & Randall Sts., Buffalo, N. Y., "Niagara"

Herrick Refrigerator & Cold Storage Co., 1804 River St., Waterloo, Iowa

Illinois Refrigerator Co., Morrison, Ill.

J. T. Mfg. Co., Centennial Blvd., Nashville, Tenn.

Jewett Refrigerator Co., 2 Letchworth St., Buffalo, N. Y.

Leonard Refrigerator Co., 201 Clyde Ave., Grand Rapids, Mich.

Louisville Refrigerator Corp., 4460 Louisville Ave., Louisville, Ky.

McCray Refrigerator Sales Corp., Kendallville, Ind.

Maine Mfg. Co., Nashua, N. H.

Niagara—see Heinz & Munschauer

Ottenheimer Bros., Hillen & Fallsway Sts., Baltimore, Md. "Reol"

Pierson Co., Cedar & Pleasant Sts., Rockford, Ill.

Reol—see Ottenheimer Bros.

Rex Mfg. Co., Connersville, Ind.

Rhinelander Refrigerator Co., Rhinelander, Wis.

Savory, Inc., 90 Alabama St., Buffalo, N. Y.

Seeger Refrigerator Co., Arcade & Wells Sts., St. Paul, Minn.

Snow White Refrigerator Co., 1938 W. Eighth St., Cincinnati, Ohio

Steelprest—see Heintz Mfg. Co.

Success Mfg. Co., Sargent St., Gloucester, Mass.

CABINETS, Therapeutic—

see **Baths,** Electric Light

CABLE, Armored Park

Solid or Stranded Conductors. Rubber Covered, Lead Sheathed, Steel Taped and Braided; for Tree Cable—see Wire, Tree

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Armorlokt"
Cataloged on page 19

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.

Armorlokt—see American Steel & Wire Co.

Austin Co., M. B., 116 S. Desplaines St. Chicago, Ill.

Condex—see Simplex Wire & Cable Co

Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.
Cataloged on page 2

General Electric Co., 1 River Rd., Schenectady, N. Y.

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Okonite Co., Canal St., Passaic, N. J.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 36-38

Rome Wire Co., Rome, N. Y.
Cataloged on page 45

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass. "Condex"

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CABLE, Armored Submarine

Stranded Conductor, Rubber Insulated, Lead Sheathed, Jute Served and Helically Wound Steel Armored, for Power Transmission

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.

Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Okonite Co., Canal St., Passaic, N. J.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

CABLE ARMORING MACHINES—

see **Machines,** Cable Armoring

CABLE, Asbestos Covered—

see **Wire,** Asbestos Covered

CABLE, Bare Copper or Brass—

see **Wire,** Bare Copper or Brass

CABLE, Basket Weave Armored

Solid or Stranded Conductor, Rubber-Covered with or without Lead Sheath and with Basket Weave Armor

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Okonite Co., Canal St., Passaic, N. J.

Rome Wire Co., Rome, N. Y.

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

CABLE, Border Light—

see **Cord,** Heavy Duty

CABLE, Concentric

Flexible Conductor, Rubber Covered and Taped, with a Second Copper Conductor Concentrically Laid and this in turn Rubber Covered and Taped—the Whole, Braided or Rubber Sheathed

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page 18

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"

Detroit Insulated Wire Co., 7561 Wesson Ave., Detroit, Mich.

Eagle—see Anaconda Wire & Cable Co.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"

Okonite Co., Canal St., Passaic, N. J.

Paranite—see Indiana Rubber & Insulated Wire Co.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 41

Rome Wire Co., Rome, N. Y.
Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass. "Tirex"
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.
Tirex—see Simplex Wire & Cable Co.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Cataloged on page 46

CABLE COPPER—
see **Wire,** Bare Copper or Brass

CABLE, Copper Covered Steel—
see **Wire,** Copper Covered Steel

CABLE, Deck—
see **Cord,** Heavy Duty

CABLE, Elevator Control—
see **Wire,** Rubber Covered and Braided

CABLE, Elevator Annunciator
Covering only Companies Cataloging this Product

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 41

CABLE END BELLS—
see **Potheads**

CABLE, Feeder—
see **Wire,** Lead Sheathed

CABLE, Flexible Control
Solid or Stranded Steel Wire Enclosed and Sliding in a Flexible Metal Casing

American Spiral Spring & Mfg. Co., 5528 Harrison St., Pittsburgh, Pa.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Breeze Metal Hose & Mfg. Co., 22 S. Sixth St., Newark, N. J. "FleXmet"
FleXmet—see Breeze Metal Hose & Mfg. Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hubbard Spring Co., M. D., Pontiac, Mich.

CABLE, Flexible Steel Armored
Solid Conductor, Rubber Covered and Braided, Armored with Flexible Steel Tape for use in Inside Wiring; for Parkway Cable—see Cable, Armored Park

American Circular Loom Co., 90 West St., New York, N. Y. "Red Seal"
American Flexible Conduit Co., 31 Scott St., New Bedford, Mass.
American Metal Moulding Co., 146 Coit St., Irvington, N. J.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Duraflex"
Cataloged on page 23
Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill. "Safesteel"
BX—see General Electric Co.
Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.
Columbia Cable & Electric Co., Thompson Ave. & Manly St., Long Island City, N. Y.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.
Duraflex—see Anaconda Wire & Cable Co.
Eastern Tube & Tool Co., 594 Johnson Ave., Brooklyn, N. Y. "Ettco Steel"
Ettco Steel—see Eastern Tube & Tool Co.
Federal Armored Cable Co., 360 Furman St., Brooklyn, N. Y.
Flexsteel—see National Electric Products Corp.
General Electric Co., Bridgeport, Conn. "BX"
Cataloged on pages 64-65
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Flexsteel"
Paranite—see Indiana Rubber & Insulated Wire Co.
Pratt Chuck Co., Main St., Frankfort, N. Y.
Providence Insulated Wire Co., 58 Waldo St., Providence, R. I.
Red Seal—see American Circular Loom Co.
Safesteel—see Austin Co.
Spiraloc—see Standard Underground Cable Co.
Standard Flexible Electric Cable Corp., Long Island City, N. Y.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J. "Spiraloc"
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.

CABLE, Flexible Switchboard—
see **Wire,** Rubber Covered and Braided

CABLE, Galvanized Steel
Stranded Galvanized Steel Cable for use as Catenary Messengers, etc.; for Copper Covered Strand—see Wire, Copper Covered Steel

American Insulated Wire & Cable Corp., 954 W. 21st St., Chicago, Ill.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page 1
Hazard Wire Rope Co., Wilkes-Barre, Pa
Indiana Steel & Wire Co., Muncie, Ind.
Macwhyte Co., 2935 14th Ave., Kenosha, Wis.
Monarch Electric & Wire Co., 622 W. Adams St., Chicago, Ill.
Page Steel & Wire Co., 929 Connecticut Ave., Bridgeport, Conn.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 4
Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio.

CABLE GRIPS—
see **Grips,** Cable and Wire

CABLE HANGERS—
see **Rings,** Cable
also **Twine,** Marline

CABLE, High Frequency—
see **Wire,** Covered Stranded Enameled

CABLE, Hollow Conductor—
see **Wire,** Bare Copper or Brass

CABLE LACING, Twine—
see **Twine,** Armature Winding

CABLE, Lead Sheathed—
see **Wire,** Lead Sheathed

CABLE, Locomotive—
see **Cable,** Concentric

CABLE LUGS—
see **Lugs,** Soldering Cable

CABLE, Mining Machine—
see **Cable,** Concentric

CABLE, Non-Metallic Sheathed
Solid or Stranded, Single or Multiple Conductor, Rubber Covered and Braided, with an Outer Braided Impregnated Protective Covering

American Circular Loom Co., 90 West St., New York, N. Y. "Loomflex"
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Durax"
Cataloged on page 23
Braidx—see General Electric Co.
Cablex—see Collyer Insulated Wire Co.
Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I. "Cablex"
Durax—see Anaconda Wire & Cable Co.
Eastern Tube & Tool Co., 594 Johnson Ave., Brooklyn, N. Y. "Ettco-Flex"
Ettco-Flex—see Eastern Tube & Tool Co.
General Electric Co., Bridgeport, Conn. "Braidx"
Cataloged on page 65
Loomflex—see American Circular Loom Co.
Loomwire—see National Electric Products Corp.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa., "Loomwire"
Okoloom—see Okonite Co.
Okonite Co., Canal St., Passaic, N. J. "Okoloom"
Paracore—see United States Rubber Co.
Rome Wire Co., Rome, N. Y. "RomeX"
Cataloged on page 45
RomeX—see Rome Wire Co.
Saylor Electric & Mfg. Co., 1014 Lynn St., Detroit, Mich.
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y. "Triex"
Triex—see Triangle Conduit Co.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore" "US"
Wireflex—see Wiremold Co.
Wiremold Co., (Elmwood) Hartford, Conn. "Wireflex"

CABLE, Paper Insulated—
see **Wire,** Lead Sheathed

CABLE, Park—
see **Cable,** Armored Park

CABLE REELS—
see **Reels,** Cable

CABLE RINGS—
see **Rings,** Cable

CABLE, Rubber Covered—
see **Wire,** Rubber Covered

CABLE, Rubber Covered and Braided—
see **Wire,** Rubber Covered and Braided

CABLE, Signal Contact
Low Voltage Signal Cable-Continuous Switch Type

Contact Cable Corp., 420 Lexington Ave., New York, N. Y.

CABLE, Stage—
see **Cord,** Heavy Duty

CABLE STRIPPING KNIVES—
see **Knives,** Cable Sheath Splitting

CABLE, Submarine—
see **Cable,** Armored Submarine

CABLE, Suburban—
see **Cable,** Armored Park

CABLE TERMINALS—
see **Potheads**

CABLE, Tree—
see **Wire,** Tree

CABLE, Varnished Cambric Lead Sheathed—
see **Wire,** Lead Sheathed

CABLE, Weatherproof—
see **Wire,** Iron Line
also **Wire,** Weatherproof

CABLE, Welding—
see **Cable,** Concentric

CABLED WIRES—
see **Wires,** Cabled Insulated

CALIBRATING PLUG SWITCHES—
see **Plugs and Receptacles,** Voltmeter

CABLING MACHINES—
see **Machines,** Wire Stranding

CALLING SYSTEMS—
see **Boards,** Code Signaling

CALLS, Carriage
Carriage Call Annunciators for Mounting Outside of Theatres, etc.
Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Kliegl Bros., Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

CAMBRIC, Varnished—
see **Fabrics,** Varnished or Oiled

CANDELABRA RECEPTACLES—
see **Receptacles,** Metal Shell Candelabra or Miniature
also **Receptacles,** Porcelain Candelabra or Miniature

CANDELABRA SOCKETS—
see **Sockets,** Composition Candelabra or Miniature
also **Sockets,** Metal Shell Candelabra or Miniature
also **Sockets,** Porcelain Candelabra or Miniature

CANDELABRA SWITCHES—
see **Switches,** Fixture

CANDLE CUPS—
see **Canopies,** Fixture

CANDLE SHELLS—
see **Shells,** Candle

CANDLE SOCKETS—
see **Sockets,** Candle

CANDLE STEM SOCKETS—
see **Sockets,** Candle

CANDLE-STICK ADAPTERS—
see **Adapters,** Candle-Stick

CANDLES, Christmas Window
Knockdown Sets of Electric Candles; for Christmas Tree Lighting Sets—see Sets, Christmas Tree Lighting
Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"
Candalite—see Electric Candalite Corp. of America
Chetlew Mfg. Co., 104 Exchange St., Malden, Mass.
Darow Mfg. Co., 38 E. 20th St., New York, N. Y.
Electric Candalite Corp. of America, 410 11th St., West New York, N. J. "Candalite"
Torrid—see Beardsley & Wolcott Mfg. Co.
Wellmade Electric Mfg. Co., Torrington, Conn.

CANOPIES, Fixture
Fixture Wall Plates, Spindles, Socket Covers, Candle Cups, etc.; for Threaded Fixture Parts—see Fittings, Fixture—see also Stampings, Metal
Amco—see Art Metal Co.
Art Metal Co., 1800 E. 38th St., Cleveland, Ohio "Amco"
Eastern Metal Spinning Co., 467 Greenwich St., New York, N. Y.
Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.
Metropolitan-Columbia Mfg. Co., 722 Metropolitan Ave., Brooklyn, N. Y.
Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.
Reliance Metal Mfg. Co., 714 Metropolitan Ave., Brooklyn, N. Y.
Vester Sons, Alfred, 5 Mason St., Providence, R. I.
Waterbury Metal Wares Co., Jackson St., Waterbury, Conn.

CANOPY RINGS—
see **Fittings,** Fixture

CANOPY SWITCHES—
see **Switches,** Fixture

CANVAS BELTING—
see **Belting,** Canvas

CANVASITE CORD—
see **Cord,** Heavy Duty

CAP SCREWS—
see **Screws,** Cap and Set

CAPACITORS—
see **Condensers,** Paper

CAPPED BUSHINGS—
see **Bushings,** Conduit

CAPS, Drive—
see **Rods,** Ground

CAPS, Ground—
see **Rods,** Ground

CAPS, Lamp—
see **Hoods,** Color

CAPS, Plug—
see **Plugs,** Separable Attachment

CAPS, Service—
see **Fittings,** Threaded Conduit

CAPS, Socket—
see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

CAPS, Switch—
see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

CARBON ARC LAMPS—
see **Lamps,** Carbon Arc

CARBON BRUSHES—
see **Brushes,** Carbon and Graphite

CARBON LAMPS—
see **Lamps,** Incandescent

CARBON RHEOSTATS—
see **Rheostats,** Laboratory

CARBONS, Arc Lamp
Carbon Electrodes for use in Arc Lamps
General Electric Co., 1 River Rd., Schenectady, N. Y.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 117
National Carbon Co., 11700 Madison Ave., Cleveland, Ohio
Speer Carbon Co., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Pa.

CARBONS, Battery
Carbon Rods or Plates for Primary Wet or Dry Batteries
National Carbon Co., 11700 Madison Ave., Cleveland, Ohio
Speer Carbon Co., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Pa.

CARD HOLDERS—
see **Holders,** Card

CARRIAGE BOLTS—
see **Bolts,** Carriage and Step

CARRIAGE CALLS—
see **Calls,** Carriage

CARRIERS, Battery
Detachable Handles for use in Carrying Storage Batteries
Acco—see American Chain Co.
American Chain Co., 929 Connecticut Ave., Bridgeport, Conn. "Acco"
National Carbon Co., 11700 Madison Ave., Cleveland, Ohio
Victor Instrument Mfg. Co., 49 W. 63d St., New York, N. Y.

CARTONS, Fibre—
see **Boxes,** Corrugated Fibre

CARTRIDGE FUSES—

see **Fuses,** Non-Renewable Low Voltage Cartridge
also **Fuses,** Renewable Low Voltage Cartridge

CARTRIDGE TYPE HEATERS—

see **Heaters,** Industrial Space

CASTELLATED NUTS—

see **Nuts.** Castellated

CASTINGS, Aluminum

Foundries equipped to produce Aluminum Castings from Patterns

Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.
Barnhart Brothers & Spindler, Monroe & Throop Sts., Chicago, Ill.
Berks Foundry & Mfg. Co., Fifth & Ash Sts., Watsontown, Pa.
Bohn Aluminum & Brass Corp., E. Grand Blvd., Detroit, Mich.
Brass Foundry Co., 713 S. Adams St., Peoria, Ill.
Brass & Bronze Castings Co., 6516 Carnegie Ave., S. E., Cleveland, Ohio
Bridgeport Deoxidized Bronze & Metal Co., 459 Iranistan Ave., Bridgeport, Conn.
Buettner Shelburne Machine Co., Third & Minshall Sts., Terre Haute, Ind.
Cady Co., C. N., Canastota, N. Y. "Cadyfour"
Cadyfour—see Cady Co.
City Brass Foundry Co., 6017 Superior Ave., Cleveland, Ohio
Coppus Engineering Corp., 356 Park Ave., Worcester, Mass.
Doehler Die Casting Co., 386 Fourth Ave., New York, N. Y.
Cataloged on page 170
Franklin Brass Foundry Co., Pear & Richmond Sts., Reading, Pa.
Harris & Co., Arthur, 212 N. Curtis St., Chicago, Ill.
Jefferson Brass Foundry, 62 Delevan St., Brooklyn, N. Y.
Keystone Bronze Co., 39th St., Pittsburgh, Pa.
Loeffelholz Co., 170 Clinton St., Milwaukee, Wis.
Metal & Alloy Specialties Co., 1875 Elmwood Ave., Buffalo, N. Y.
Mutual Foundry & Machine Co., Hemphill Ave., Atlanta, Ga.
Ornamental Brass Shops, 1100 Ninth St., Rockford, Ill.
Permold Co., 6800 Grant Ave., Cleveland, Ohio
Price Brothers, Frederick, Md.
Shoop Bronze Co., 344 W. Sixth Ave., Tarentum, Pa.
Waldon Tool & Metal Mfg. Co., 7 Oxford St., New Haven, Conn.
Wellman Bronze Co., 6017 Superior Ave., Cleveland, Ohio
Werra Aluminum Foundry Co., Waukesha, Wis.
Wisconsin Aluminum Foundry Co., 16th & Franklin Sts., Manitowoc, Wis.

CASTINGS, Brass or Copper

Foundries equipped to produce Brass, Bronze or Copper Castings from Patterns

American Manganese Bronze Co., (Holmesburg) Philadelphia, Pa.
Bedford Foundry & Machine Co., Bedford, Ind.
Berks Foundry & Mfg. Co., Fifth & Ash Sts., Watsontown, Pa.
Bohn Aluminum & Brass Corp., E. Grand Blvd., Detroit, Mich.
Brass Foundry Co., 713 S. Adams St., Peoria, Ill.
Buettner Shelburne Machine Co., Third & Minshall Sts., Terre Haute, Ind.
Builders Iron Foundry Co., 9 Codding St., Providence, R. I.
Cadman Mfg. Co., A. W., 2816 Smallman St., Pittsburgh, Pa.
Cady Co., C. N., Canastota, N. Y. "Cadyfour"
Cadyfour—see Cady Co.
Caldwell & Co., E. R., 34 Hilton St., Bradford, Pa.
Coppus Engineering Corp., 356 Park Ave., Worcester, Mass.
Des Moines Foundry & Machine Co., S. W. 17th & Wabash, Des Moines, Iowa
Dirigold Corp., Kokomo, Ind.
Do-Di—see Doehler Die Casting Co.
Doehler Die Casting Co., 386 Fourth Ave., New York, N. Y. "Do-Di"
Cataloged on page 170
Electric Materials Co., North East, Pa.
Fischer-Sweeny Bronze Co., Bound Brook, N. J.
Franklin Brass Foundry Co., Pear & Richmond Sts., Reading, Pa.
Harris & Co., Arthur, 212 N. Curtis St., Chicago, Ill.
Hodgkins Co., J. F., Gardiner, Me.
Illinois Malleable Iron Co., 1801 Diversey Parkway, Chicago, Ill.
Jefferson Brass Foundry, 62 Delevan St., Brooklyn, N. Y.
Johnson Bronze Co., New Castle, Pa.
Jones Brass & Iron Specialty Co., 1820 W. 22d St., Chicago, Ill.
Keystone Bronze Co., 39th St., Pittsburgh, Pa.
Loeffelholz Co., 170 Clinton St., Milwaukee, Wis.
Lumen Bearing Co., 197 Lathrop St., Buffalo, N. Y.
Metal & Alloy Specialties Co., 1875 Elmwood Ave., Buffalo, N. Y.
Michigan Smelting & Refining Co., 7885 Jos. Campau Ave., Detroit, Mich.
More-Jones Brass & Metal Co., 4930 Manchester Ave., St. Louis, Mo.
Mueller Brass Co., Port Huron, Mich.
Murray Iron Works Co., Central Ave. & Washington St., Burlington, Iowa
Mutual Foundry & Machine Co., Hemphill Ave., Atlanta, Ga.
Ornamental Brass Shops, 1100 Ninth St., Rockford, Ill.
Price Brothers, Frederick, Md.
Reeves & Co., Paul S., 1425 Catharine St., Philadelphia, Pa.
Sherwood Mfg. Co., 1703 Elmwood Ave., Buffalo, N. Y.
Shoop Bronze Co., 344 W. Sixth Ave., Tarentum, Pa.
Smith Co., S. Morgan, Lincoln & Hartley Sts., York, Pa.
Superior Brass & Copper Foundry, 527 St. Joseph St., New Orleans, La.
United Brass & Aluminum Mfg. Co., Port Huron, Mich.
United Metal Mfg. Co., Norwich, Conn.
Waldon Tool & Metal Mfg. Co., 7 Oxford St., New Haven, Conn.
Wellman Bronze Co., 6017 Superior Ave., Cleveland, Ohio
Williams & Son, E. A., 105 Plymouth St., Jersey City, N. J.
Wisconsin Aluminum Foundry Co., 16th & Franklin Sts., Manitowoc, Wis.

CASTINGS, Bronze—

see **Castings,** Brass or Copper

CASTINGS, Copper—

see **Castings,** Brass or Copper

CASTINGS, Die

Contract Companies having Facilities for Producing Die Castings

Alemite Die Casting & Mfg. Co., Woodstock, Ill.
Allied Die-Casting Corp., Skillman Ave., Honeywell & Buckley Sts., Long Island City, N. Y.
Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.
American Bearing Corp., 421 W. 11th St., Indianapolis, Ind.
Badger Die Casting Co., 159 Buffalo St., Milwaukee, Wis.
Barnhart Brothers & Spindler, Monroe & Throop Sts., Chicago, Ill.
Beaver Machine & Die Casting Corp., 1226 W. Belden Ave., Syracuse, N. Y.
Diemoulding Production Co., Rasbach St., Canastota, N. Y.
Doehler Die Casting Co., 386 Fourth Ave., New York, N. Y.
Cataloged on page 170
Franklin Die-Casting Corp., Gifford & Magnolia Sts., Syracuse, N. Y.
Grey Mfg. Co., C. M., 358 Central Ave., East Orange, N. J.
Illinois Die Casting Co., 551 W. Congress St., Chicago, Ill.
Krone-Sebek Die Casting & Mfg. Co., 666 W. Austin Ave., Chicago, Ill.
Legler-Eilerman Co., 428 Bacon St., Dayton, Ohio
Milwaukee Die Casting Co., 299 Fourth St., Milwaukee, Wis.
Mt. Vernon Die Casting Corp., Mt. Vernon, N. Y.
Newton Die Casting Corp., 146 Munson St., New Haven, Conn.
Cataloged on page 171
Paragon Die Casting Co., 2701 N. Crawford Ave., Chicago, Ill.
Parker White-Metal & Machine Co., Erie, Pa.
Perfection Die Casting Corp., 400 Lakeside Ave., N. W., Cleveland, Ohio
Phoenix Die Casting Co., 21 Illinois St., Buffalo, N. Y.
Precision Castings Co., Syracuse, N. Y.
Cataloged on page 172
Republic Die Casting Co., 138 Mott St., New York, N. Y.
Soss Mfg. Co., Roselle, N. J.
Stewart Die Casting Corp., 4500 Fullerton Ave., Chicago, Ill.
Superior Die Casting Co., 875 E. 70th St., Cleveland, Ohio
Veeder-Root, Inc., 80 Sergeant St., Hartford, Conn.

CASTINGS, Gray Iron

Foundries equipped to produce Gray Iron Castings from Patterns

American Engineering Co., Aramingo Ave. & Cumberland St., Philadelphia, Pa.
Anderson Engine & Foundry Co., 215 Jackson St., Anderson, Ind.
Atlas Foundry Co., Lyons Ave. & L. V. R.R., Irvington, N. J.
Bedford Foundry & Machine Co., Bedford, Ind.
Berks Foundry & Mfg. Co., Fifth & Ash Sts., Watsontown, Pa.
Brown Co., A. & F., Elizabeth, N. J.
Brown & Sharpe Mfg. Co., Promenade St., Providence, R. I.
Buffalo Foundry & Machine Co., 1543 Fillmore Ave., Buffalo, N. Y.
Builders Iron Foundry Co., 9 Codding St., Providence, R. I.
Butterworth & Sons Co., H. W., 2417 E. York St., Philadelphia, Pa.
Cady Co., C. N., Canastota, N. Y. "Cadyfour"
Cadyfour—see Cady Co.
Christiana Machine Co., Christiana, Pa.
Crouse & Pope Foundry Corp., Auburn, N. Y.
Des Moines Foundry & Machine Co., S. W. 17th & Wabash, Des Moines, Iowa
Dunning & Boschert Press Co., 329 W. Water St., Syracuse, N. Y.
Erie City Iron Works, East Ave. & N. Y. C. R.R., Erie, Pa.

CASTINGS, Gray Iron (Contd.)

Farquhar Co., A. B., 142 N. Duke St., York, Pa.
Flagg & Co., Stanley G., Stowe, Pa.
Franklin Machine Co., Cross & Charles Sts., Providence, R. I.
Fulton Foundry & Machine Co., Morgan Ave. & 75th St., Cleveland, Ohio
Fulton Iron Works Co., 1259 Delaware Ave., St. Louis, Mo.
Hagan Co., George J., Chamber of Commerce Bldg., Pittsburgh, Pa.
Havana Mfg. Co., Havana, Ill.
Hubbs, C. A., 50 Church St., New York, N. Y.
Illinois Malleable Iron Co., 1801 Diversey Parkway, Chicago, Ill.
Milwaukee Grey Iron Foundry Co., 3910 Mitchell St., Milwaukee, Wis.
Mosser & Son, W. F., Allentown, Pa.
Murray Iron Works Co., Central Ave. & Washington St., Burlington, Iowa
Mutual Foundry & Machine Co., Hemphill Ave., Atlanta, Ga.
National Sewing Machine Co., Belvidere, Ill.
New York Switch & Crossing Co., 15th & Madison Sts., Hoboken, N. J.
Nute, McGehee, Geary Co., Chambersburg, Pa.
Queen City Foundry Co., 391 Norfolk Ave., Buffalo, N. Y.
Republic Structural Iron Works, 1290 E. 53d St., Cleveland, Ohio
St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.
Sessions Foundry Co., Bristol, Conn.
Smith Co., S. Morgan, Lincoln & Hartley Sts., York, Pa.
Snead & Co., foot of Pine St., Jersey City, N. J.
Springfield Foundry Co., Springfield, Mass.
Tioga Steel & Iron Co., Easton, Pa.
United Brass & Aluminum Mfg. Co., Port Huron, Mich.
United States Pipe & Foundry Co., Burlington, N. J.
Vulcan Iron Works, 730 S. Main St., Wilkes-Barre, Pa.
Walworth Co., Statler Bldg., Boston, Mass.
Walworth Run Foundry Co., 2488 W. 27th St., Cleveland, Ohio
Woodruff & Edwards, 225 S. State St., Elgin, Ill.

CASTINGS, Malleable Iron

Foundries equipped to produce Malleable Iron Castings from Patterns

American Malleables Co., Lancaster, N. Y.
Badger Malleable & Mfg. Co., South Milwaukee, Wis.
Benton Harbor Malleable Industries, Benton Harbor, Mich.
Berger Brothers Co., 237 Arch St., Philadelphia, Pa. "Perfect"
Buckeye Jack Mfg. Co., Alliance, Ohio
Cadillac Malleable Iron Co., Cadillac, Mich.
Canton Malleable Iron Co., Canton, Ohio
Eastern Malleable Iron Co., Naugatuck, Conn.
Evansville Malleable Casting Co., Evansville, Ind.
Flagg & Co., Stanley G., Stowe, Pa.
Fort Pitt Malleable Iron Co., McKees Rocks St., Pittsburgh, Pa.
Hubbs, C. A., 50 Church St., New York, N. Y.
Illinois Malleable Iron Co., 1801 Diversey Pkwy., Chicago, Ill.
Laconia Car Co., Laconia, N. H.
Lake City Malleable Co., 5046 Lakeside Ave., Cleveland, Ohio
Lakeside Malleable Castings Co., Racine, Wis.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Malleable Iron Fittings Co., Branford, Conn.
Meeker Foundry Co., 95 Clay St., Newark, N. J.
National Malleable & Steel Castings Co., 10600 Quincy Ave., Cleveland, Ohio
Northern Malleable Iron Co., 867 Forest St., St. Paul, Minn.
Peoria Malleable Castings Co., Peoria, Ill.
Perfect—see Berger Brothers Co.
Racine Steel Castings Co., Kewaunee St., Racine, Wis.
Richmond Malleable Castings Co., Richmond, Ind.
St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.
Temple Malleable Iron & Steel Co., Temple, Pa.
Vermilion Malleable Iron Co., 202 N. Sixth Ave., Hoopeston, Ill.
Walworth Co., Statler Bldg., Boston, Mass.

CASTINGS, Nickel Alloy

Foundries equipped to produce Nickel Alloy Castings from Patterns

Chromel—see Hoskins Mfg. Co.
Driver-Harris Co., Harrison, N. J. "Nichrome"
Cataloged on page **146**
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich. "Chromel"
Nichrome—see Driver-Harris Co.
Sweet Foundry Co., Wm. J., Chestnut Ave., Irvington, N. J.

CASTINGS, Steel

Foundries equipped to produce Steel Casting from Patterns

American Engineering Co., Aramingo Ave. & Cumberland St., Philadelphia, Pa.
Atlantic Steel Castings Co., Chester, Pa.
Atlas Steel Casting Co., 1963 Elmwood Ave., Buffalo, N. Y.
Buffalo Foundry & Machine Co., 1543 Fillmore Ave., Buffalo, N. Y.
Chicago Steel Foundry Co., Kedzie Ave. & 37th St., Chicago, Ill. "Evansteel" "Pyrasteel"
Cincinnati Steel Castings Co., Queen City & Spring Grove Aves., Cincinnati, Ohio
Commercial Steel Casting Co., Marion, Ohio
Crucible Steel Casting Co., Lansdowne, Pa.
Deemer Steel Casting Co., New Castle, Del.
Dycast Steel Co., Collinsville, Conn.
Electric Steel Foundry Co., 24th & York Sts., Portland, Ore. "Esco"
Empire Steel Casting Co., Frush Valley, Reading, Pa.
Esco—see Electric Steel Foundry Co.
Evansteel—see Chicago Steel Foundry Co.
Falk Corp., foot of 30th St., Milwaukee, Wis.
Federal Steel Foundry Co., foot of Reaney St., Chester, Pa.
Flagg & Co., Stanley G., Stowe, Pa.
Fulton Foundry & Machine Co., Morgan Ave. & 75th St., Cleveland, Ohio
Fulton Iron Works Co., 1259 Delaware Ave., St. Louis, Mo.
Havana Mfg. Co., Havana, Ill.
Industrial Steel Casting Co., Toledo, Ohio
Lebanon Steel Foundry, Lebanon, Pa.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Malleable Iron Fittings Co., Branford, Conn.
Maynard Electric Steel Casting Co., 22d Ave. & Kilbourn Rd., Milwaukee, Wis.
Michigan Steel Casting Co., 1986 Guoin St., Detroit, Mich.
Minneapolis Electric Steel Castings Co., 38th Ave., N. E. & Fifth St., Minneapolis, Minn.
Monroe Steel Castings Co., Monroe, Mich.
Mosser & Son, W. F., Allentown, Pa.
National Malleable & Steel Castings Co., 10600 Quincy Ave., Cleveland, Ohio
New York Switch & Crossing Co., 15th & Madison Sts., Hoboken, N. J.
Nugent Steel Castings Co., 3100 S. Wood St., Chicago, Ill.
Nute, McGehee, Geary Co., Chambersburg, Pa.
Pyrasteel—see Chicago Steel Foundry Co.
Racine Steel Castings Co., Kewaunee St., Racine, Wis.
Republic Structural Iron Works, 1290 E. 53d St., Cleveland, Ohio
Springfield Foundry Co., Springfield, Mass.
Strong Steel Foundry Co., 33 Norris St., Buffalo, N. Y.
Taylor Co., W. P., Ellicott Sq., Buffalo, N. Y.
Treadwell Engineering Co., Easton, Pa.
United States Pipe & Foundry Co., Burlington, N. J.
Walworth Co., Statler Bldg., Boston, Mass.
Western Crucible Steel Casting Co., 2833 Grand Ave., S., Minneapolis, Minn.
Wharton Jr. & Co., Wm., Easton, Pa.

CEILING DRILLS—

see **Drills,** Hammer and Spring

CEILING DROPS—

see **Fixtures,** Industrial Indoor
also **Fixtures,** Public Building Indoor
also **Fixtures,** Residential Indoor

CEILING FANS—

see **Fans,** Ceiling

CEILING LIGHTS, Airport—

see **Fixtures,** Airport Lighting

CEILING PULL SWITCHES—

see Switches, Ceiling Pull

CELL TESTERS—

see **Testers,** Portable Battery Cell

CELLS, Photo-Electric

Selenium, Alkali Metal and other Cells sensitive to Light and Color

Arcturus Radio Tube Co., 218 Elizabeth Ave., Newark, N. J.
Burt Scientific Laboratory, R. C., 904 E. California St., Pasadena, Cal.
Foto—see National Carbon Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
G-M Laboratories, Inc., Grace & Ravenwood Ave., Chicago, Ill. "Visitron"
KH—see Radio Electrical Works
National Carbon Co., 30 E. 42d St., New York, N. Y. "Foto" "Raytheon"
Radio Electrical Works, 150 W. 22d St., New York, N. Y. "KH"
Raytheon—see National Carbon Co.
Visitron—see G-M Laboratories

CELLS, Selenium—

see **Cells,** Photo-Electric

CEMENT, Commutator

For use in Slots on Undercut Commutators

Acme Abrasive Co., 1048 Webster Ave., Chicago, Ill.
Commulac—see Martindale Electric Co.
Early Co., Edw. E., 1129 Fifth St., N. W., Canton, Ohio

Fix Kwik—see Technical Products Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio "Commulac"
Mica Insulator Co., 200 Varick St., New York, N. Y. "Mico"
Cataloged on page 155
Mico—see Mica Insulator Co.
Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Technical Products Co., (East Liberty) Pittsburgh, Pa. "Fix Kwik"

CENTRIFUGAL BLOWERS—
see **Blowers and Fans,** Centrifugal

CENTRIFUGAL CLOTHES DRIERS—
see **Driers,** Centrifugal Clothes

CENTRIFUGAL FANS—
see **Blowers and Fans,** Centrifugal

CENTRIFUGAL TACHOMETERS—
see Tachometers, Centrifugal

CHAFERS, Electric
Electrically Heated Covered Dishes for use on the Table for Cooking
Buffalo Mfg. Co., 191 Clinton St., Buffalo, N. Y.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Manning, Bowman & Co., Meriden, Conn.
Universal—see Landers, Frary & Clark

CHAFING DISHES—
see Chafers, Electric

CHAIN, Arc Lamp—
see Chain, Lamp Suspension

CHAIN, Ball or Bead
Pull Chain for use on Sockets and Receptacles; for Insulating Links, Splicing Links, etc.—see Fittings, Pull Chain
Bead Chain Mfg. Co., 1930 Mountain Grove St., Bridgeport, Conn.
Cataloged on page 143
Durbrow & Hearne Mfg. Co., 12 Wooster St., New York, N. Y.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)
Weber Electric Co.—see Sears, Henry D.

CHAIN, Bead—
see Chain, Ball or Bead

CHAIN, Chandelier—
see Chain, Fixture

CHAIN, Fixture
Ornamental and Plain Chain for use in Ceiling Drops, etc.; for Arc Lamp Suspension Chain—see Chain, Lamp Suspension
Acco—see American Chain Co.
American Chain Co., 929 Connecticut Ave., Bridgeport, Conn. "Acco"
Columbus McKinnon Chain Co., Fremont St., Tonawanda, N. Y.
Eastern Chain Co., 309 E. 22d St., New York, N. Y.
Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.
Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Newark Metal Mfg. Co., 22 S. Sixth St., Newark, N. J.
Newhall Chain Forge & Iron Co., 9 Park Pl., New York, N. Y.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Steele & Johnson Mfg. Co., 779 S. Main St., Waterbury, Conn.
Universal Metal Chain Co., 75 Clymer St., Brooklyn, N. Y.

CHAIN, Lamp Suspension
Chain for Suspending Heavy Arc or Incandescent Lamps from Brackets or Metal Arms; for Chandelier Chain—see Chain, Fixture
American Chain Co., 929 Connecticut Ave., Bridgeport, Conn.
Bridgeport Chain Co., 964 Crescent Ave., Bridgeport, Conn.
Hobbs Co., Clinton E., 33 Pearl St., Boston, Mass.

CHAIN, Pull—
see Chain, Ball or Bead

CHAIN SPLICING LINKS—
see Fittings, Pull Chain

CHAIN WRENCHES—
see Wrenches, Pipe

CHANDELIER CHAIN—
see Chain, Fixture

CHANDELIERS—
see Fixtures

CHANGERS, Frequency—
see **Motor-Generators,** Current Supply

CHANGERS, Lamp
Pole Type Bulb or Socket Grips for Changing Lamps
G. C. A. Mfg. Co., 65 Eagle St., Pittsfield, Mass.
McGill Mfg. Co., Valparaiso, Ind.
Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo.

CHANNEL SWITCHES—
see **Boxes,** Meter Service

CHANNELS, Wiring—
see **Boxes,** Meter Service
see also **Molding,** Ornamental Metal
also **Molding,** Wood
also **Molding and Fittings,** Metal

CHARGERS, Battery—
see **Motor-Generators,** Battery Charging
also **Rectifiers,** Battery Charging Bulb
also **Rectifiers,** Battery Charging Electrolytic or Chemical
also **Rectifiers,** Battery Charging Vibrator or Mechanical

CHARGERS, Magnet
Electromagnets for Charging and Recharging Magnets
American Electric Co., State & 64th Sts., Chicago, Ill.
Colpin Corp., 6110 S. Main St., Los Angeles, Cal.
Fore Electrical Mfg. Co., 5255 Wabada Ave., St. Louis, Mo.
Miho Co., 717 Sycamore St., Cincinnati. Ohio

CHEMICAL RECTIFIERS—
see **Rectifiers,** Battery Charging Electrolytic or Chemical

CHIMES, Electrically Operated
Chimes in which the Hammers are actuated by Electromagnets
Deagan, Inc., J. C., 1770 Berteau Ave., Chicago, Ill.
Gillette Electric Clock Co., 728 Buckingham Pl., Chicago, Ill.

CHOKE COILS—
see **Coils,** Radio Choke

CHRISTMAS TREE LIGHTS—
see **Sets,** Christmas Tree Lighting

CHRISTMAS TREE STANDS—
see **Stands,** Illuminated Christmas Tree

CHRISTMAS WINDOW CANDLES—
see **Candles,** Christmas Window

CHROMIUM PLATING—
see **Galvanizing & Sherardizing**

CHRONOMETRIC TACHOMETERS—
see **Tachometers,** Chronometric

CIGAR HUMIDIFIERS—
see **Humidifiers,** Electric Cigar

CIGAR LIGHTERS—
see **Lighters,** Electric Cigar

CIRCUIT BREAKER OILS—
see **Oils,** Transformer and Circuit Breaker

CIRCUIT BREAKER TYPE SWITCHES—
see **Switches,** Circuit Breaker Type

CIRCUIT BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit
also **Switches,** Combined Circuit Breaker and Starting

CIRCUIT CABINETS—
see **Panelboards**

CLAMP PINS—
see **Pins,** Metal Insulator

CLAMPS, Beam

Metal Clamps for Gripping the Flanges of Steel Beams to support Pipes, Brackets, etc.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

Commonwealth Electric Co., 417 Broadway, St. Paul, Minn.

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Erie—see Keystone State Products Corp.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Keystone State Products Corp., Blairsville, Pa. "Erie"

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wrigley Co., Thomas, 613 W. Lake St. Chicago, Ill.

CLAMPS, Bracket—

see **Clamps,** Crossarm

CLAMPS, Bus-Bar Test

Testing Clamps for use on Large Cables or Bus-Bars; for Test Clips—see Clips, Test

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.

Dossert & Co., 242 W. 41st St., New York, N. Y.

Frankel Connector Co., 179 Hudson St., New York, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

High Tension Co., 149 Broadway, New York, N. Y.

Seeco—see Southern Electrical Equipment Co., Bridgeport, Conn.

Southern Electrical Equipment Co., 314 W. Bland St., Charlotte, N. C. "Seeco"

CLAMPS, Crossarm

Galvanized Iron "U"-Shaped Clamps for use in Fastening Insulator Pins, etc., to Crossarms; for Wire Rope Clamps—see Clamps, Wire Rope

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CLAMPS, Dead Ending

Clamps for Securing the End of a Cable or Wire Rope to an Insulator Clevis, etc.

Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

J-D—see Jeffery-Dewitt Insulator Co.

Jeffery-Dewitt Insulator Co., Kenova, W. Va. "J-D"

Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.

Seeco—see Southern Electrical Equipment Co.

Southern Electrical Equipment Co., 314 W. Bland St., Charlotte, N. C. "Seeco"

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CLAMPS, Ground

Connectors for Fastening Ground Wire Terminals to Grounding Medium

All-In-One—see Fairmount Electric & Mfg. Co.

All-Steel-Equip Co., Aurora, Ill.

Amoroso Mfg. Co., 60 India St., Boston Mass. "Nifty"

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

Blackburn Specialty Co., 1965 E. 66th St., Cleveland, Ohio

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Borden Electric Co., 480 Broad St., Newark, N. J.

Cemco—see Connecticut Electric Mfg. Co.

Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn. "Cemco"

Copperweld Steel Co., Glassport, Pa.

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Ekko Co., 111 W. Monroe St., Chicago Ill.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.

Fairmount Electric & Mfg. Co., 59th & Woodland Ave., Philadelphia, Pa. "All-In-One" "Vogel"

Fargo Mfg. Co., 106 N. Clinton St., Poughkeepsie, N. Y.

Federal Electric Co., 8700 S. State St., Chicago, Ill.

Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"

Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"

Gee Vee—see Gillette-Vibber Co.

General Electric Co., Bridgeport, Conn. Cataloged on page **65**

General Stamping Works, 243 E. 24th St., New York, N. Y.

Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Gee Vee"

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Suretite"

H & H—see Arrow-Hart & Hegemen Electric Co.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Ideal Clamp Mfg. Co., 202 Bradford St., Brooklyn, N. Y.

Johnson Electric Mfg. Co., 14 Lyndon St., Warren, R. I.

K-E—see Kirkman Engineering Corp.

Kirkman Engineering Corp., 1 Dominick St., New York, N. Y. "K-E"

Kwikon—see Fralick & Co.

Mefco—see Flaherty Co.

Midwest Electric Co., 1639 Walnut St., Chicago, Ill.

Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill.

Muter Co., Leslie F., 3440 S. Chicago Ave., Chicago, Ill.

Nifty—see Amoroso Mfg. Co.

Raco—see Roach-Appleton Mfg. Co.

Railway & Industrial Engineering Co., Greensburg, Pa. "R. & I. E."

R. & I. E.—see Railway & Industrial Engineering Co.

Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"

Shawmut—see Chase-Shawmut Co.

Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.

Simpson, Alexander B., 220 E. 70th St., New York, N. Y.

Snap-Tite Clamp Co., 110 W. 14th St., New York, N. Y.

Suretite—see Heinemann Electric Co.

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

Vogel—see Fairmount Electric & Mfg. Co.

Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Zierick Machine Works, F. R., 72 E. 131st St., New York, N. Y.

CLAMPS, Guy—

see **Clamps,** Wire Rope

CLAMPS, Loom

For Holding Loom by Pressure in Outlet Boxes

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

H & H—see Arrow-Hart & Hegeman Electric Co.

Jiffy—see Koch & Co.

K. B.—see Stern-Brown

Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Porter Electric Co., 1513 Church St., San Francisco, Cal.

Renlim Mfg. Co., 3060 Superior Ave., Cleveland, Ohio

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

Stern-Brown, 257 W. 17th St., New York, N. Y. "K. B."

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

CLAMPS, Splicing

Hand Tools for Making a Twist Splice; for Wire Pulling Clamps—see Grips, Cable and Wire

Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"

Cronk & Carrier Mfg. Co., Montour Falls, N. Y.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.

High Tension Co., 149 Broadway, New York, N. Y.

Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.

Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.

Memco Engineering & Mfg. Co., 79 Freeman St., Long Island City, N. Y.

National Telephone Supply Co., 5100 Superior Ave., Cleveland, Ohio

Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"

Pexto—see Peck, Stow & Wilcox Co.

Red Devil—see Crescent Tool Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CLAMPS, Wire Rope

Removable Fastenings for Wire Rope or Strand

American Hoist & Derrick Co., 63 S. Robert St., St. Paul, Minn. "Crosby"

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Tiger"
Cataloged on page 20

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.

Bull Dog—see Westinghouse Electric & Mfg. Co.

Burndy Engineering Co., 230 E. 45th St., New York, N. Y.

Charmond Electric Corp., 30 Church St., New York, N. Y.

Crosby—see American Hoist & Derrick Co.

Diamond Expansion Bolt Co., Garwood N. J. "Trident"

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Everstick Anchor Co., 128 Madison St., St. Louis, Mo.

Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio

Hazard Wire Rope Co., Wilkes-Barre, Pa.

High Tension Co., 149 Broadway, New York, N. Y.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.

Lamson & Sessions Co., 2188 Scranton Rd., Cleveland, Ohio

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Malleable Iron Fittings Co., Branford, Conn. "Shull"

Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo.

Newhall Chain Forge & Iron Co., 9 Park Pl., New York, N. Y.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Shull—see Malleable Iron Fittings Co.

Tiger—see American Steel & Wire Co.

Trident—see Diamond Expansion Bolt Co.

Truscon Steel Co., Youngstown, Ohio

Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Bull Dog"

Wire-Lock Clamp Co., Pennsylvania Bldg., Philadelphia, Pa.

CLEANERS, Portable Vacuum

Portable Suction Cleaners with or without Blowing, Heating and Paint Spraying Attachments; for Portable Blowers—see Blowers, Electric Portable

Air-Way Electric Appliance Corp., 618 Broadway, Toledo, Ohio

Aladdin—see Wise-McClung Corp.

Allen & Billmyre Co., Grand Central Palace, New York, N. Y. "Tabco"

America—see Wise-McClung Corp.

Aristocrat—see Regina Corp.

Bee-Vac—see Birtman Electric Co.

Birtman Electric Co., 4140 Fullerton Ave., Chicago, Ill. "Bee-Vac"

Cadillac—see Clements Mfg. Co.

Clarke Sanding Machine Co., 3815 Cortland St., Chicago, Ill. "Vac-All"

Clements Mfg. Co., 618 Fulton St., Chicago, Ill. "Cadillac"

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electare Co., 636 Church St., Evanston, Ill.

Electric Vacuum Cleaner Co., 1734 Ivanhoe Rd., Cleveland, Ohio. "Premier"

Eureka Vacuum Cleaner Co., Greenwood & Dewey Aves., Detroit, Mich.

Fedelco—see Federal Electric Co.

Federal Electric Co., 8700 S. State St., Chicago, Ill. "Fedelco" "Moto-Brush"

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo. "Midget"

Geier Co., P. A., 540 E. 105th St., Cleveland, Ohio "Royal"

Gem—see Ohio Electric Co.

General Compressed Air & Vacuum Machinery Co., 1915 Pine St., St. Louis, Mo. "Thurman"

General Electric Co., Bridgeport, Conn.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Hamilton Beach Mfg. Co., 1501 Rapid Dr., Racine, Wis.

Hoover Co., North Canton, Ohio

Hotpoint—see Edison General Electric Appliance Co.

Hurley Machine Co., 22d St. & 54th Ave., Chicago, Ill. "Thor"

Invincible Vacuum Cleaner Mfg. Co., 14th & Davis Sts., Dover, Ohio

Johnson Motor Products Co., 1401 Carroll Ave., Chicago, Ill. "Port-o-Vac"

Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal. "Rotarex"

Kent Co., 131 Canal St., Rome, N. Y. "Vacuna"
Cataloged on page 129

Keystone—see Standard Vacuum Cleaner Mfg. Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Lee Suction Cleaner Corp., Ira, 2821 Brooklyn Ave., Detroit, Mich.

Metal Specialties Mfg. Co., 352 N. Kedzie Ave., Chicago, Ill. "Presto-Vac"

Midget—see Galvin Electric Mfg. Co.

Morrow Co., 626 Grand Ave., Waukegan, Ill. "X-Ray"

Moto-Brush—see Federal Electric Co.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

National Super Service Co., 1952 N. 13th St., Toledo, Ohio (Sole Distributors for Super Service Co., Toledo, Ohio)

Newcombe Separator Co., of America, 1911 First St., Detroit, Mich.

O. K. Machine Co., Fairfield Ave. & Poplar St., Fort Wayne, Ind.

Ohio Electric Co., 145 W. 45th St., New York, N. Y. "Gem"

Polar Cub—see Gilbert Co.

Ponsell Floor Machine Co., 230 W. 19th St., New York, N. Y.

Port-o-Vac—see Johnson Motor Products Co.

Premier—see Electric Vacuum Cleaner Co.

Presto-Vac—see Metal Specialties Mfg. Co.

Regina Corp., Cherry St., Rahway, N. J. "Aristocrat"

Rotarex—see Johnson Washer Co.

Royal—see Geier Co.

Scott & Fetzer, W. 114th St. & Locust Ave., Cleveland, Ohio. "Vacuette"

Speedrite—see Sturtevant Co.

Standard Vacuum Cleaner Mfg. Co., 1925 W. 115th St., Cleveland, Ohio "Keystone"

Star-Rite—see Fitzgerald Mfg. Co.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass. "Speedrite"

Sunshine—see Wise-McClung Corp.

Super Service Co., 812 Lafayette St., Toledo, Ohio

Sweeper-Vac—see Wright Co.

Tabco—see Allen & Billmyre Co.

Thor—see Hurley Machine Co.

Thurman—see General Compressed Air & Vacuum Machinery Co.

United Electric Co., 1200 Eighth St., N. E., Canton, Ohio

Universal—see Landers, Frary & Clark

Vac-All—see Clarke Sanding Machine Co.

Vacuette—see Scott & Fetzer

Vacuna—see Kent Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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White Cross—see National Stamping & Electric Works

Wise-McClung Corp., 443 Park St., New Philadelphia, Ohio. "Aladdin" "America" "Sunshine"

Wright Co., M. S., 164 Fremont St., Worcester, Mass. "Sweeper-Vac"

X-Ray—see Morrow Co.

CLEANERS, Slot—

see **Slotters,** Commutator

CLEAT RECEPTACLES—

see **Receptacles,** Porcelain Medium
also **Receptacles,** Porcelain Mogul

CLEAT ROSETTES—

see **Rosettes**

CLEATS, Porcelain Wiring

Cleats for use with Open Wiring; for Special Shapes—see Porcelain, Molders of

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.

Davidson Porcelain Co., East Liverpool, Ohio

Duggan—see Imperial Porcelain Works

Illinois Electric Porcelain Co., Macomb, Ill.

Imperial Porcelain Works, Mulberry St. & New York Ave., Trenton, N. J. "Duggan"

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Peach Porcelain Co., East Liverpool, Ohio

Porcelain Products, Inc., Findlay, Ohio

Square D Co., 6060 Rivard St., Detroit, Mich.

Thomas & Sons Co., R., Lisbon, Ohio.

Trenle Porcelain Co., East Liverpool, Ohio

CLEATS, Wiring—

see **Cleats,** Porcelain Wiring

CLEVISES, Bolt

For Insulator Clevises, Suspension or Spool Type—see Clevises, Insulator

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Line Material Co., South Milwaukee, Wis.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CLEVISES, Dead Ending—

see **Clevises,** Bolt

CLEVISES, Insulator

Clevises for use with Spool or Suspension Insulators

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.

CLEVISES, Insulator (Continued)

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
O-B—see Ohio Brass Co.
Ohio Brass Co., Mansfield, Ohio "O-B"
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CLIMBER STRAPS—

see **Straps,** Climber

CLIMBERS, Lineman's—

see **Climbers,** Wood Pole

CLIMBERS, Pole—

see **Climbers,** Wood Pole

CLIMBERS, Wood Pole

Pole Climbers or Metal Spurs for use in Climbing Wood Poles; for Climber Straps—see Straps, Climber

Buckingham, W. H., 12 Bronson St., Binghamton, N. Y. "Stephen's"
Columbus Handle & Tool Corp., 14th St. & Big Four R. R., Columbus, Ind. "Sturd E"
Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.
Leach Co., 412 S. Main St., Oshkosh, Wis. "OshKosh" "Roberts"
OshKosh—see Leach Co.
Red Devil—see Crescent Tool Co.
Roberts—see Leach Co.
Stephen's—see Buckingham, W. H.
Sturd E—see Columbus Handle & Tool Corp.

CLIPPERS, Electric Hair

Motor Driven Hair Clippers complete with Flexible Enclosed Shaft

Allover Mfg. Co., 1127 Irving Pl., Racine, Wis.
Belle City Appliance Co., 1022 12th St., Racine, Wis.
Brown & Sharpe Mfg. Co., Promenade St., Providence, R. I.
Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill.
Coates Clipper & Mfg. Co., 237 Chandler St., Worcester, Mass.
E Z—see Earl Mfg. Co.
Earl Mfg. Co., 4332 N. Gratz St., Philadelphia, Pa. "E Z"
Gillette Clipping Machine Co., 131 W. 31st St., New York, N. Y.
Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.
Moore Electric Corp., 605 Washington Blvd., Chicago, Ill.
Norstrom Electric Co., 2537 Sheffield Ave., Chicago, Ill.
P-B Superior, Inc., 5235 Manchester Ave., St. Louis, Mo.
Wahl Clipper Corp., Sterling, Ill.

CLIPPERS, Electric Hedge

Motor Driven Clippers for use in Trimming Hedges

Detco Mfg. Co., Oaks, Pa.
Speed—see Trowbridge, William H.
Trowbridge, William H., Passaic, N. J. "Speed"

CLIPS, Battery—

see **Clips,** Test

CLIPS, Cable—

see **Rings,** Cable

CLIPS, Fuse

Metal Contacts for Mounting Ferrule and Knife Blade Type Fuses on Insulating Bases

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo.
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"
Lundy Co., A. E., Fulton Bldg., Pittsburgh, Pa.
Lyons Mfg. Co., (Mt. Carmel) New Haven, Conn.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.
Risdon Mfg. Co., Naugatuck, Conn.
Shawmut—see Chase-Shawmut Co.
Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Union—see Jefferson Electric Co.

CLIPS, Test

For use as Terminal Connectors on Wires for Temporary Test Purposes—see also Clamps, Bus-Bar Test

Apco Mfg. Co., 1200 Eddy St., Providence, R. I.
Dusie Mfg. Co., Wellsboro, Pa.
Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa.
Eureka—see Morse Co.
Frankel Connector Co., 179 Hudson St., New York, N. Y.
Hartung Co., Charles F., 730 E. 61st St., Los Angeles, Cal.
Hyfrex—see Stern-Brown
Mohawk Corp. of Illinois, 4200 Belmont Ave., Chicago, Ill.
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"
Mueller Electric Co., 1583 E. 31st St., Cleveland, Ohio "Pee Wee"
Pee Wee—see Mueller Electric Co.
Shanco—see Shanklin Mfg. Co.
Shanklin Mfg. Co., 2725 S. 11th St., Springfield, Ill. "Shanco"
Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.
States Co., 17 New Park Ave., Hartford, Conn.
Stern-Brown, 257 W. 17th St., New York, N. Y. "Hyfrex"
Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.
Waterbury Button & Moulding Co., 835 S Main St., Waterbury, Conn.
Wilkens Electric Mfg. Corp., 52 Orawangum St., White Plains, N. Y.

CLIPS, Wire Rope—

see **Clamps,** Wire Rope

CLOCK MOVEMENTS—

see **Movements,** Secondary Clock

CLOCK SWITCHES—

see **Switches,** Clock Controlled

CLOCKS, Electric Master and Secondary

Master Clocks designed to control Secondary Apparatus; also Secondary Time Indicating Mechanisms designed to be operated by these Master Clocks

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
Gillette Electric Clock Co., 728 Buckingham Pl., Chicago, Ill.
Hammond Clock Co., 4117 Ravenswood Ave., Chicago, Ill.
International Time Recording Co., 50 Broad St., New York, N. Y.
Kenmore—see Kodel Electric & Mfg. Co.
Kodel Electric & Mfg. Co., 507 E. Pearl St., Cincinnati, Ohio. "Kenmore"
New Haven Clock Co., 133 Hamilton St., New Haven, Conn.
Radio Electric Clock Corp., 50 Church St., New York, N. Y.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 126
Stromberg Electric Co., 233 W. Erie St., Chicago, Ill.
Telechron—see Warren Telechron Co.
Thomas Clock Co., Seth, 19 W. 44th St., New York, N. Y.
Tork Clocks, Inc., 12 E. 41st St., New York, N. Y.
Warren Telechron Co., 252 Main St., Ashland, Mass. "Telechron"
Cataloged on page 128

CLOCKS, Electric Program

Clocks arranged to operate Signals according to Predetermined Schedules

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
International Time Recording Co., 50 Broad St., New York, N. Y.
Simplex Time Recorder Co., S. Lincoln & Sanborn Sts., Gardner, Mass.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 126
Stromberg Electric Co., 233 W. Erie St., Chicago, Ill.
Telechron—see Warren Telechron Co.
Tork Clocks, Inc., 12 E. 41st St., New York, N. Y.
Warren Telechron Co., 252 Main St., Ashland, Mass. "Telechron"

CLOCKS, Electric Self Contained

Self Winding Electric Clocks that are entirely Self Contained

Imperial Clock Corp., Highland, Ill.
Niagara Clock Co., 3053 Main St., Buffalo, N. Y.
Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

CLOCKS, Electric Time Recording

Secondary Clocks equipped with Manually Operated Time Recording Mechanisms

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
Commercial Utilities Mfg. Co., 147 Waverly Pl., New York, N. Y.
International Time Recording Co., 50 Broad St., New York, N. Y.
Simplex Time Recorder Co., S. Lincoln & Sanborn Sts., Gardner, Mass.
Stromberg Electric Co., 233 W. Erie St., Chicago, Ill.

CLOCKS, Electric Watchman's Time

Stationary Clocks with Mechanism to record Signals sent from Remote Stations

American Watchman's Time Detector Co., 3403 Perkins Ave., Cleveland, Ohio

American Watchman's Time Detector Co., 233 Broadway, New York, N. Y. "Morse"

Autocall Co., Shelby, Ohio

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Guardian—see Hausburg, E. O.

Hausburg, E. O., 51 Maiden Lane, New York, N. Y. "Guardian"

Morse—see American Watchman's Time Detector Co., New York, N. Y.

CLOCKS, Master—

see **Clocks,** Electric Master and Secondary

CLOCKS, Program—

see **Clocks,** Electric Program

CLOCKS, Secondary—

see **Clocks,** Electric Master and Secondary

CLOCKS, Synchronous—

see **Clocks,** Electric Master and Secondary

CLOCKS, Time—

see **Clocks,** Electric Time Recording
also **Clocks,** Electric Watchman's Time

CLOSERS, Conduit Hole—

see **Blanks,** Knockout

CLOTH CUTTING MACHINES—

see **Machines,** Cloth Cutting

CLOTH, Oiled—

see **Fabrics,** Varnished or Oiled

CLOTHES DRIERS—

see **Driers,** Centrifugal Clothes
also **Driers,** Electrically Heated Clothes

CLOTHES WASHERS—

see **Washers,** Electric Clothes

CLOTHES WRINGERS—

see **Wringers,** Motor Driven Clothes

CLUSTERS, Floor and Table Lamp

Clusters for use in Assembling Floor and Table Lamps to provide for Two or More Sockets

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 109

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Eastern Metal Spinning Co., 467 Greenwich St., New York, N. Y.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.

Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Triumph Mfg. Co., 310 13th St., West New York, N. J.

Wameco—see Waterbury Metal Wares Co.

Waterbury Metal Wares Co., Jackson St., Waterbury, Conn. "Wameco"

CLUSTERS, Lamp—

see **Clusters,** Floor and Table Lamp

COAL RANGES, Combination—

see **Ranges,** Combination Fuel and Electric

COATED SHEET STEEL—

see **Steel,** Coated Sheet

COB TYPE PINS—

see **Pins,** Composite Wood and Metal Insulator

CODE SIGNALING BOARDS—

see **Boards,** Code Signaling

COFFEE PERCOLATORS—

see **Percolators,** Coffee

COFFEE URNS—

see **Percolators,** Coffee
also **Urns,** Electric Commercial Water

COIL IMPREGNATING MACHINES—

see **Machines,** Coil Impregnating

COIL SPRINGS—

see **Springs,** Machinery or Coil

COIL TAMPING TOOLS—

see **Tools,** Armature Repair

COIL VARNISH—

see **Varnish,** Insulating

COIL WINDING MACHINES—

see **Machines,** Coil Winding

COIL WINDINGS—

see **Windings,** Coil

COILS, Filter—

see **Coils,** Radio Choke

COILS, Radio Choke

Covering only Companies Cataloging this Product

TCA—see Transformer Corp. of America

Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA"
Cataloged on page 177

COILS, Safety—

see **Transformers,** Constant Current

COILS TO ORDER—

see **Windings,** Coil

COIN OPERATED ELECTRIC PIANOS—

see **Pianos,** Electric Coin Operated

COIN OPERATED SWITCHES—

see **Switches,** Coin Operated

COLLAR RINGS—

see **Canopies,** Fixture

COLLARS, Fixture—

see **Fittings,** Fixture

COLOR FILTERS—

see **Discs,** Color

COLOR HOODS—

see **Hoods,** Color

COLOR SCREENS—

see **Discs,** Color

COLORING and FROSTING, Lamp

Prepared Compounds for Coloring or Frosting Incandescent Lamps

Arts Electrical Co., 1825 Fifth Ave., Troy, N. Y. "Safety Frost"

Beacon—see McKay Co.

Champion—see Snarr & Co.

Crescent—see McGill Mfg. Co.

Eagle Electric Mfg. Co., 79 Hall St., Brooklyn, N. Y.

Franche & Co., C. E., 440 Orleans St., Chicago, Ill.

Frostol Co., Westfield, N. J.

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 117

McGill Mfg. Co., Valparaiso, Ind. "Crescent"

McKay Co., 275 Water St., New York, N. Y. "Beacon" "Velvet Frost"

Permoid Process Co., 1115 Venice Blvd., Los Angeles, Cal.

Pyramid Color Co., 326 Canal St., New York, N. Y.

Rosco Laboratories, 367 Hudson Ave., Brooklyn, N. Y.

Safety Frost—see Arts Electrical Co.

Snarr & Co., Geo. W., 110 S. Ninth St., St. Louis, Mo. "Champion"

Velvet Frost—see McKay Co.

COLUMN DRILLS—

see Drills, Hammer and Spring

COLUMN FANS—

see **Fans,** Ceiling

COMBINATION PLIERS—

see Pliers, Combination Slip Joint

COMBS, Electrically Heated

Combs equipped with a Heating Element

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Betsy Ross—see Central Flatiron Mfg. Co.

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Hotpoint—see Edison General Electric Appliance Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Meyer Co., Wm., 1648 N. Girard St., Chicago, Ill.

National Electric Appliance Co., Madison Ave. and W. 83d St., Cleveland, Ohio

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Samson-United Corp., 8 Jones St., Rochester, N. Y.

Star-Rite—see Fitzgerald Mfg. Co.

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Ward Mfg. Co., 937 Wellington Ave., Chicago, Ill.

COMEALONGS—

see Grips, Cable and Wire

COMMUTATOR CEMENT—

see Cement, Commutator

COMMUTATOR GRINDERS—

see Grinders, Commutator
also **Stones,** Commutator Grinding

COMMUTATOR LUBRICATING COMPOUNDS—
see **Compounds,** Commutator Lubricating

COMMUTATOR POLISH—
see **Polish,** Commutator

COMMUTATOR RESURFACERS—
see **Grinders,** Commutator
also **Stones,** Commutator Grinding

COMMUTATOR RINGS—
see **Mica**

COMMUTATOR SLOTTERS—
see **Slotters,** Commutator

COMMUTATOR SLOTTING FILES—
see **Files,** Commutator Slotting

COMMUTATOR SLOTTING SAWS—
see **Saws,** Commutator Slotting

COMMUTATOR STONES—
see **Stones,** Commutator Grinding

COMMUTATOR UNDERCUTTERS—
see **Slotters,** Commutator

COMMUTATORS, Complete
Completely Assembled Commutators ready to be Connected to the Armature Windings

Cameron Electric Mfg. Co., 205 Main St., Ansonia, Conn.
Electric Materials Co., North East, Pa.
Eureka Copper Products Corp., 79 Clay St., North East, Pa.
Fuerst-Friedman Co., 1292 E. 53d St., Cleveland, Ohio
Homer Commutator Corp., 4748 Hough Ave., N. E., Cleveland, Ohio.
Toledo Standard Commutator Co., 2242 Smead Ave., Toledo, Ohio

COMPENSATORS, Motor-Starting—
see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

COMPENSATORS, Series Lamp—
see **Transformers,** Auto

COMPOSITION BINDING POSTS—
see **Posts,** Binding

COMPOSITION, Conduit—
see **Conduit,** Fibre

COMPOSITION INSULATION—
see **Insulation,** Synthetic

COMPOSITION INSULATION, Molders of—
see **Insulation,** Molders of Composition

COMPOSITION MOLDING MACHINES—
see **Machines,** Plastic Molding

COMPOSITION SOCKETS—
see **Sockets,** Composition

COMPOUND GENERATORS—
see **Generators,** D. C. Shunt and Compound

COMPOUND MOTORS—
see **Motors,** D. C. Compound

COMPOUNDS, Armature Washing
Compounds for use in Cleaning Armatures, Meters or Switches; for Commutator Polish—see Polish, Commutator

Acme Abrasive Co., 1048 Webster Ave., Chicago, Ill.
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

COMPOUNDS, Battery Sealing
Asphaltum or Rosin Base Waxes for Sealing Dry and Storage Batteries

Barber Asphalt Co., 1600 Arch St., Philadelphia, Pa. "Genasco"
Candy & Co., 35th St. & Maplewood Ave., Chicago, Ill. "Faultless Seal" "Never-Bulge"
Cochrane Chemical Co., 432 Danforth Ave., Jersey City, N. J. "Lastic-Kote"
Dicks-Pontius Co., 127 Wayne Ave., Dayton, Ohio
Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.
Faultless Seal—see Candy & Co.
Genasco—see Barber Asphalt Co.
General Electric Co., Bridgeport, Conn.
Globe Chemical Co., Murray Rd. & Big Four R.R., (St. Bernard) Cincinnati, Ohio
Great Lakes Thread & Yarn Co., 5179 Wesson Ave., Detroit, Mich.
Insulatine Co., 1 Broadway, New York, N. Y.
Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J.
Lastic-Kote—see Cochrane Chemical Co.
Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Never-Bulge—see Candy & Co.
Zinsser & Co., Wm., 516 W. 59th St., New York, N. Y.

COMPOUNDS, Commutator Lubricating
Polishing and Lubricating Compounds in Stick or Paste form for use on Commutators; for Commutator Polish—see Polish, Commutator

Allen Co., L. B., 6749 Bryn Mawr Ave., Chicago, Ill.

COMPOUNDS, Impregnating—
see **Compounds,** Insulating

COMPOUNDS, Insulating
Insulating and Impregnating Compounds prepared with a Rubber, Asphaltum or other Base; for Insulating Varnish—see Varnish, Insulating; for Insulating Paint—see Paint, Insulating; for Plastic Molding Compounds—see Compounds, Molding

Ackurate Rubber Co., 25 Beaver St., New York, N. Y.
American Di-Electrics, Ltd., 89 Hancock St., Long Island City, N. Y.
Appleton Rubber Co., Franklin, Mass.
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Benolite Varnish Co., Koppers Bldg., Pittsburgh, Pa.
Calman & Co., Emil, 42-25 Vernon Blvd., Long Island City, N. Y. "Ohmlac"
Candy & Co., 35th St. & Maplewood Ave., Chicago, Ill. "Faultless"
Carboloid Products Corp., 15 Park Row, New York, N. Y.
Clifton Mfg. Co., 65 Brookside Ave., Boston, Mass.
Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.
Dolph Co., John C., 168 Emmett St., Newark, N. J.
Electrical Engineers Equipment Co., Melrose Park, Ill. "Three E"
Faultless—see Candy & Co.
General Electric Co., Bridgeport, Conn.
Great Lakes Thread & Yarn Co., 5179 Wesson Ave., Detroit, Mich.
Hexsulate—see Tar Products Corp.
Impervious Varnish Co., 436 Seventh Ave., Pittsburgh, Pa.
Insulatine Co., 1 Broadway, New York, N. Y.
Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J.
Mechanical Rubber Co., 1790 Broadway, New York, N. Y.
Mica Insulator Co., 200 Varick St., New York, N. Y. "Mico"
Cataloged on page **155**
Mico—see Mica Insulator Co.
Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill.
Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Ohmlac—see Calman & Co.
Okonite Co., Canal St., Passaic, N. J.
Ozite—see Standard Underground Cable Co.
Robertson Chemical Co., 9808 Meech Ave., Cleveland, Ohio
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page **42**
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J. "Ozite"
Standard Varnish Works, 443 Fourth Ave., New York, N. Y.
Sterling Varnish Co., Haysville, Pa.
Tar Products Corp., 99 Empire St., Providence, R. I. "Hexsulate"
Three E—see Electrical Engineers Equipment Co.
Trotter & Co., E. T., 576 Johnson Ave., Brooklyn, N. Y.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Zinsser & Co., Wm., 516 W. 59th St., New York, N. Y.

COMPOUNDS, Lamp Coloring—
see **Coloring and Frosting,** Lamp

COMPOUNDS, Luminous
Luminous Paint or Paste; for Articles treated with Luminous Compounds—see Pendants, Luminous

Undark—see United States Radium Corp.
United States Radium Corp., 535 Pearl St., New York, N. Y. "Undark"

COMPOUNDS, Molding
Producers of Phenolic and other Compounds for use by Molding Companies

Ambler Asbestos Shingle and Sheathing Co., Ambler, Pa. "Ambleroid"
Cataloged on page **150**
Ambleroid—see Ambler Asbestos Shingle & Sheathing Co.
Bakelite Corp., 247 Park Ave., New York, N. Y.
Carboloid Products Corp., 15 Park Row, New York, N. Y.
Celoron—see Continental-Diamond Fibre Co.

Colasta Co., Hoosick Falls, N. Y.
Continental-Diamond Fibre Co., Newark, Del. "Celoron"
Durez—see General Plastics
Electrobestos—see Johns-Manville Corp.
General Plastics, Inc., Walck Rd., North Tonawanda, N. Y. "Durez"
Cataloged on page 159
Johns-Manville Corp., 292 Madison Ave., New York, N. Y. "Electrobestos"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

COMPOUNDS, RACKS and STAMPS, Glass Etching

Compounds and Complete Outfits for use in Marking Glass Articles; for Coloring and Frosting Compounds—see Coloring and Frosting, Lamp

Etch-O-Lite Co., 422 First Ave., Pittsburgh, Pa.

COMPOUNDS, Radium—

see **Compounds,** Luminous

COMPOUNDS, Soldering—

see **Flux,** Soldering

COMPOUNDS, Wire Finishing

Compounds prepared for Polishing and Finishing the Braided Insulation of Wires and Cables

Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Standard Wax & Import Co., 110 E. 42d St., New York, N. Y.

CONCENTRIC CABLE—

see **Cable,** Concentric

CONCRETE DRILLS—

see **Drills,** Brick or Concrete

CONCRETE INSERTS—

see **Inserts,** Concrete

CONCRETE SURFACING MACHINES—

see **Machines,** Concrete Surfacing

CONDENSER FOIL—

see **Foil,** Condenser

CONDENSER MOTORS—

see **Motors,** A. C. Synchonous

CONDENSER TISSUE—

see **Tissue,** Condenser

CONDENSER WINDING MACHINES—

see **Machines,** Condenser Winding

CONDENSERS, Filter—

see **Condensers,** Paper

CONDENSERS, Fixed—

see **Condensers,** Paper

CONDENSERS, Paper

Small Units of Fixed Capacity

Acracon—see Condenser Corp. of America
Aerovox Wireless Corp., 70 Washington St., Brooklyn, N. Y.
American Electric Co., State & 64th Sts., Chicago, Ill.
Bee Cee—see Brown & Caine
Brown & Caine, 2317 Calumet Ave., Chicago, Ill. "Bee Cee"
Concourse Electric Co., 296 E. 137th St., New York, N. Y.
Condenser Corp. of America, 271 Cornelison Ave., Jersey City, N. J. "Acracon"
Deutschmann Corp., Tobe, Canton, Mass.
Dubilier Condenser Corp., 4377 Bronx Blvd., New York, N. Y.
Faradon—see Wireless Specialty Apparatus Co.
Fast & Co., John E., 3123 N. Crawford Ave., Chicago, Ill.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Igrad Condenser & Mfg. Co., 4322 Lake Ave., Rochester, N. Y.
Kellogg Switchboard & Supply Co., 1070 W. Adams St., Chicago, Ill.
Mallory & Co., P. R., 350 Madison Ave., New York, N. Y.
Midget—see Sprague Specialties Co.
National Electric Condenser Co., 1255 Dixwell Ave., New Haven, Conn.
Polymet Mfg. Corp., 829 E. 134th St. New York, N. Y.
Potter Mfg. Co., 1950 Sheridan Rd., North Chicago, Ill.
Sangamo Electric Co., 50 Church St., New York, N. Y.
Sprague Specialties Co., 1511 Hancock St., Quincy, Mass. "Midget"
Stromberg-Carlson Telephone Mfg. Co. 1060 University Ave., Rochester, N. Y.
TCA—see Transformer Corp. of America
Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA"
Cataloged on page 177
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wireless Specialty Apparatus Co., 76 Atherton St., (Jamaica Plain) Boston Mass. "Faradon"

CONDENSERS, Synchronous—

see **Motors,** A.C. Synchronous

CONDITIONING OVENS—

see **Ovens,** Commercial Industrial

CONDUIT, Aluminum—

see **Conduit,** Brass or Aluminum

CONDUIT BASE—

see **Molding,** Ornamental Metal

CONDUIT BENDERS—

see **Benders,** Hand Conduit

CONDUIT, Brass or Aluminum

Brass or Aluminum Tubing for use in Electric Wiring Systems

Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.

CONDUIT BUSHING ADAPTERS—

see **Adapters,** Conduit Bushing

CONDUIT BUSHINGS—

see **Bushings,** Conduit

CONDUIT, Composition—

see **Conduit,** Fibre

CONDUIT CUTTERS—

see **Cutters,** Hand Conduit

CONDUIT END FITTINGS—

see **Fittings,** Threaded Conduit
also **Fittings,** Threadless Conduit

CONDUIT FERRULES—

see **Ferrules,** Flexible Metallic Conduit

CONDUIT, Fibre

Fibre Conduit and Fittings for use as Underground Ducts

Brown Co.—see Graybar Electric Co.
Fibre Conduit Co.—see Johns-Manville Corp.
General Electric Co., Bridgeport, Conn.
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Brown Co., Portland, Me.)
Johns-Manville Corp., 292 Madison Ave., New York, N. Y. (Sole Distributors for Fibre Conduit Co., Orangeburg, N. Y.) "Orangeburg"
Line Material Co., South Milwaukee, Wis.
Orangeburg—see Johns-Manville Corp.

CONDUIT FITTINGS—

see **Fittings,** Flexible Metallic Conduit
also **Fittings,** Threaded Conduit
also **Fittings,** Threadless Conduit

CONDUIT, Flexible Metallic

Spirally Wound Steel Tubing for use as a Conduit

American Circular Loom Co., 90 West St., New York, N. Y. "Red Seal"
American Metal Moulding Co., 146 Coit St., Irvington, N. J.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Duraflex"
Cataloged on page 23
Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill. "Safesteel"
Columbia Cable & Electric Co., Thompson Ave. & Manly St., Long Island City, N. Y.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.
Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.
Duraflex—see Anaconda Wire & Cable Co.
Eastern Tube & Tool Co., 594 Johnson Ave., Brooklyn, N. Y. "Ettco Steel"
Ettco Steel—see Eastern Tube & Tool Co.
Federal Armored Cable Co., 360 Furman St., Brooklyn, N. Y.
Flexsteel—see National Electric Products Corp.
General Electric Co., Bridgeport, Conn.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Flexsteel"
Red Seal—see American Circular Loom Co.
Safesteel—see Austin Co.
Standard Flexible Electric Cable Corp., Long Island City, N. Y.
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.

CONDUIT, Flexible Non-Metallic

Seamless Fireproof Fabric Tubing; for Flexible Metallic Conduit—see Conduit, Flexible Metallic

Alphaduct Co., 136 Cator Ave., Jersey City, N. J.
American Circular Loom Co., 90 West St., New York, N. Y. "Circularloom" "Loomflex"
American Core Twine Corp., 60 Fulda St., Boston, Mass. "Pioneer"
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Duraduct"
Cataloged on page 23
Anselite Electric Mfg. Co., 85 Willow St., New Haven, Conn.
Berry, A. Hall, 71 Murray St., New York, N. Y. (Sole Distributors for Non-Metallic Pliaduct Co., Penn Yan, N. Y.) "Pliaduct"
Circularloom — see American Circular Loom Co.
Duraduct—see Anaconda Wire & Cable Co.
Eastern Tube & Tool Co., 594 Johnson Ave., Brooklyn, N. Y. "Ettco Tube"
Electric Conduits Co., Plainfield, N. J. "Super"

CONDUIT, Flexible Non-Metallic (Continued)

Ettco Tube—see Eastern Tube & Tool Co.
Flextube—see National Electric Products Corp.
Insulated Duct & Cable Co., Trenton, N. J.
Loomflex—see American Circular Loom Co.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Flextube"
Non-Metallic Pliaduct Co.—see Berry, A. Hall
Pioneer—see American Core Twine Corp.
Pliaduct—see Berry, A. Hall
Saylor Electric & Mfg. Co., 1014 Lynn St., Detroit, Mich.
Slick-Finish—see Wiremold Co.
Super—see Electric Conduits Co.
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.
Wireduct—see Wiremold Co.
Wiremold Co., (Elmwood) Hartford, Conn. "Slick-Finish" "Wireduct"

CONDUIT HANGERS—

see **Hangers,** Conduit Pipe

CONDUIT LOCKNUTS—

see **Locknuts,** Conduit

CONDUIT, Ornamental Metal—

see **Molding,** Ornamental Metal

CONDUIT PLUGS—

see **Plugs,** Conduit Sealing
also **Seals,** Conduit

CONDUIT REAMERS—

see **Reamers,** Conduit

CONDUIT, Rigid Steel

Steel Tubing for use in Electric Wiring Systems and as Underground Ducts

Alumaduct—see National Enameling & Mfg. Co.
American Circular Loom Co., 90 West St., New York, N. Y. "Electroduct" "Xduct"
Buckeye—see Youngstown Sheet & Tube Co.
Central Tube Co., First National Bank Bldg., Pittsburgh, Pa. "Whitenred" Cataloged on page 48
Clifton Conduit Co., 225 Varick St., New York, N. Y.
Economy—see National Electric Products Corp.
Electroduct—see American Circular Loom Co.
Enamelduct—see National Enameling & Mfg. Co.
Enameled Metals Co., 61 Bridge St., Pittsburgh, Pa. "Pittsburgh"
Enamelite—see Fretz-Moon Tube Co.
Enamelkote—see Mark & Co.
Fretz-Moon Tube Co., Butler Co. National Bank Bldg., Butler, Pa. "Enamelite" "Galvite" Cataloged on page 49
Galvaduct—see Garland Mfg. Co.
Galvakote—see Mark & Co.
Galvite—see Fretz-Moon Tube Co.
Garland Mfg. Co., Grant Bldg., Pittsburgh, Pa. "Galvaduct" "Loricated"
General Electric Co., Bridgeport, Conn. "Greenfielduct" "Sprageduct" Cataloged on page 64
Greenfielduct—see General Electric Co.
Gwilliam Mfg. Corp., 917 N. Front St., Philadelphia, Pa. "Philduct"
Indian—see Mohawk Conduit Co.
Loricated—see Garland Mfg. Co.
Mark & Co., Clayton, 2031 W. 74th St., Chicago, Ill. "Enamelkote" "Galvakote"
Mohawk Conduit Co., Saratoga St., Cohoes, N. Y. "Indian"
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Economy" "Ovalduct" "Sherarduct"
National Enameling & Mfg. Co., Ninth St. & Liberty Ave., Pittsburgh, Pa. "Alumaduct" "Enamelduct"
Ovalduct—see National Electric Products Corp.
Philduct—see Gwilliam Mfg. Corp.
Pittsburgh—see Enameled Metals Co.
Sherarduct—see National Electric Products Corp.
Sprageuct—see General Electric Co.
Steel & Tubes, Inc., 224 E. 131st St., Cleveland, Ohio
Steelduct Co., Youngstown, Ohio
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.
Walker Bros., 1417 Sansom St., Philadelphia, Pa.
Whitenred—see Central Tube Co.
Xduct—see American Circular Loom Co
Youngstown Sheet & Tube Co., Stambaugh Bldg., Youngstown, Ohio "Buckeye"

CONDUIT SEALS—

see **Plugs,** Conduit Sealing
also **Seals,** Conduit

CONDUIT STRAPS—

see **Straps,** Conduit Pipe

CONE GROUNDS—

see **Grounds,** Cone and Cylinder

CONNECTORS, Box—

see **Fittings,** Threaded Conduit

CONNECTORS, Cord—

see **Plugs,** Extension Cord Connecting

CONNECTORS, Fixture—

see **Fittings,** Fixture

CONNECTORS, Flexible Metallic Conduit—

see **Fittings,** Flexible Metallic Conduit

CONNECTORS, Line—

see **Clamps,** Bus-Bar Test

CONNECTORS, Portable Cord—

see **Plugs,** Extension Cord Connecting

CONNECTORS, Solderless Insulated

Insulated Connectors for Splicing Solid or Stranded Conductors; for Uninsulated Cylinder and Set Screw Connectors—see Connectors, Solderless Uninsulated

Bryant Electric Co., 1421 State St. Bridgeport, Conn. Cataloged on page 50
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Wire-Nuts"
Dossert & Co., 242 W. 41st St., New York, N. Y.
General Electric Co., Bridgeport, Conn.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill. Cataloged on page 139
Jiffy Wire Connector Co., 7 Bridge St., Hackensack, N. J. "SRK"
Marr—see Rattan Mfg. Co.
Rattan Mfg. Co., 552 State St., New Haven, Conn. "Marr"
SRK—see Jiffy Wire Connector Co.
Simplex—see Weiss & Biheller
Weiss & Biheller, 584 Broadway, New York, N. Y. "Simplex"
Wire-Nuts—see Colt's Patent Fire Arms Mfg. Co.

CONNECTORS, Solderless Uninsulated

Uninsulated Metal Connectors for Splicing Solid or Stranded Conductors; for Solderless Insulated Fixture Wire Connectors — see Connectors, Solderless Insulated

Charmond Electric Corp., 30 Church St., New York, N. Y. "Goeller"
Circle T—see Trumbull Electric Mfg. Co.
Columbia Metal Box Co., 260 E. 143d St., New York, N. Y. "Notorch"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Dossert & Co., 242 W. 41st St., New York, N. Y.
Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"
Elpeco—see Electric Power Equipment Corp.
Eureka—see Morse Co.
Fargo Mfg. Co., 106 N. Clinton St., Poughkeepsie, N. Y.
Frankel Connector Co., 179 Hudson St., New York, N. Y.
Gillett—see Park Metalware Co.
Goeller—see Charmond Electric Corp.
Hatch Co., E. G., 120 Broadway, New York, N. Y.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"
Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"
Notorch—see Columbia Metal Box Co.
Park Metalware Co., Orchard Park St., Orchard Park, N. Y. "Gillett"
Peirce—see Hubbard & Co.
Penn-Union Electric Corp., Erie, Pa.
Quick-as-a-Wink—see Standard Underground Cable Co.
Rajah Co., Bloomfield, N. J.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.
Simpson, Alexander B., 220 E. 70th St., New York, N. Y.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J. "Quick-as-a-Wink"
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CONNECTORS, Tapeless Wire—

see **Connectors,** Solderless Insulated

CONOIDAL FANS—

see **Blowers,** Centrifugal

CONSTANT CURRENT GENERATORS—

see **Generators,** D.C. Constant Current
also **Generators,** Plating

CONSTANT SPEED MOTORS—

see **Motors,** D.C. Compound
also **Motors,** D.C. Shunt

CONTACT MATTING—

see **Switches,** Burglar Alarm

CONTACT POINTS—

see **Platinum**

CONTACT CABLE—

see **Cable,** Signal Contact

CONTACTORS, Magnetic—
see **Switches,** Magnetic

CONTACTS, Mercury—
see **Tubes,** Mercury Contact

CONTINUOUS WAVE POWER TRANSFORMERS—
see **Transformers,** Radio Power

CONTROLLERS, Automatic Motor
Automatic Apparatus for Starting and Controlling Motors

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Automatic Reclosing Circuit Breaker Co., Sixth St. & Indianola Ave., Columbus, Ohio
C-H—see Cutler-Hammer
Circle T—see Trumbull Electric Mfg. Co.
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
General Electric Co., 1 River Rd., Schenectady, N. Y.
Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.
Ribohm—see Ward Leonard Electric Co.
Rowan Controller Co., 306 N. Holliday St., Baltimore, Md.
Square D Co., 6060 Rivard St., Detroit, Mich.
Sundh Electric Co., 5 Ave. C, Newark, N. J.
Takamine Corp., 35-10 36th Ave., Long Island City, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Uemco—see Union Electric Mfg. Co.
Union Electric Mfg. Co., 926 Juneau Ave., Milwaukee, Wis. "Uemco"
Vitrohm—see Ward Leonard Electric Co.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y. "Ribohm" "Vitrohm"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on pages **97-98**

CONTROLLERS, Drum—
see **Controllers,** Manual Motor

CONTROLLERS, Manual Motor
Manual Apparatus for Starting and Controlling Motors

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page **83**
C-H—see Cutler-Hammer
Circle T—see Trumbull Electric Mfg. Co.
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.
General Electric Co., 1 River Rd., Schenectady, N. Y.
I-T-E Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.
National Electric Controller Co., 5315 Ravenswood Ave., Chicago, Ill.
Ribohm—see Ward Leonard Electric Co.
Square D Co., 6060 Rivard St., Detroit, Mich.
Sundh Electric Co., 5 Ave. C, Newark, N. J.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Uemco—see Union Electric Mfg. Co.
Union Electric Mfg. Co., 926 Juneau Ave., Milwaukee, Wis. "Uemco"
Vitrohm—see Ward Leonard Electric Co.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y. "Ribohm" "Vitrohm"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on pages **97-98**

CONTROLLERS, Maximum Load—
see **Relays,** Demand Limiting

CONTROLLERS, Motor—
see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

CONTROLS, Traffic Light—
see **Flashers,** Motor Operated

CONVENIENCE OUTLETS—
see **Plugs and Receptacles,** Polarized
also **Receptacles,** Flush

CONVERTERS, Frequency—
see **Motor-Generators,** Battery Charging
also **Motor-Generators,** Current Supply

CONVERTERS, Rotary—
see **Converters,** Synchronous

CONVERTERS, Synchronous
Single or Polyphase Converters, with Slip-Ring Rotors and Commutators on opposite Ends of a Single Shaft, for use in Converting A.C. to D.C.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.
Bodine Electric Co., 2258 W. Ohio St., Chicago, Ill.
Continental Electric Co., 323 Ferry St., Newark, N. J.
Elliott Co., Frick Bldg., Jeannette, Pa.
Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Great Lakes Electric Mfg. Co., 655 N. Kedzie Ave., Chicago, Ill.
Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on page **93**
Martin—see Northwestern Electric Co.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill. "Martin"
Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.
Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

COOKERS, Electric Doughnut
Electrically Heated and Operated Doughnut Bakers

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.
Dominion Electrical Mfg. Co., 722 Ontario Ave. W., Minneapolis, Minn.
Doughnut Machine Corp., 1170 Broadway, New York, N. Y. "Lincoln"
Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.
Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.
Lincoln—see Doughnut Machine Corp.

COOKERS, Electric Fireless
Fireless Cookers Electrically Heated

Campbell Co., Wm., 1000 N. Union Ave., Alliance, Ohio
Durham Mfg. Co., Muncie, Ind.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Everhot—see Swartzbaugh Mfg. Co.
Excel Electric Co., 2507 S. Walnut St., Muncie, Ind.
Florence Stove Co., Kankakee, Ill.
Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.
Hotpoint—see Edison General Electric Appliance Co.
Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal. "Kook-Rite"
Kook-Rite—see Johnson Washer Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"
Thermostove Corp., 153 13th St., Oakland, Cal.
Universal—see Landers, Frary & Clark
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

COOKERS, Electric Pressure—
see **Cookers,** Electric Fireless

COOKERS, Fireless—
see **Cookers,** Electric Fireless

COOKERS, Heat Storage—
see **Cookers,** Electric Fireless

COOKING OVENS—
see **Ovens,** Commercial Industrial
also **Ovens,** Electric Household
also **Ranges,** Electric Household

COOKING POTS—
see **Pots,** Electric Cooking

COOLERS, Electric Water
Water Coolers equipped with an Electric Refrigerating Machine

Canaday Cooler Co., 121 Varick St., New York, N. Y.
Cleveland Iceless Cooler Co., 971 E. 63d St., Cleveland, Ohio "Kold Stream"
Delco-Light Co., 334 N. Taylor St., Dayton, Ohio
General Electric Co., Union Trust Bldg., Cleveland, Ohio
Kold Stream — see Cleveland Iceless Cooler Co.
Taylor Co., Halsey W., Warren, Ohio

COPPER BRUSHES—
see **Brushes,** Copper Leaf and Gauze

COPPER CABLE—
see **Wire,** Bare Copper or Brass

COPPER CASTINGS—
see **Castings,** Brass or Copper

COPPER COVERED STRAND—
see **Wire,** Copper Covered Steel

COPPER FOIL—
see **Foil,** Condenser

COPPER-MANGANESE WIRE—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

COPPER-NICKEL WIRE—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

COPPER RIVETS—
see **Rivets,** Brass or Copper

COPPER, Rod—
see **Brass and Copper,** Sheet and Rod

COPPER, Sheet—
see **Brass and Copper,** Sheet and Rod

COPPER TUBING—
see **Tubing,** Brass or Copper

COPPERS, Battery
Electrodes for use in Primary Wet Batteries; for Battery Zinc—see Zincs, Battery

Bryant Mfg. Co., 456 W. Ontario St., Chicago, Ill.

Edes Mfg. Co., Plymouth, Mass.

COPPERS, Soldering
Soldering Irons; for Electric Soldering Irons—see Irons, Electric Soldering

Barrett, Wm. L., 30 School St., Bristol, Conn.

Clendenin Bros., 108 South St., Baltimore, Md.

Electric Materials Co., North East, Pa.

Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"

Pexto—see Peck, Stow & Wilcox Co.

CORD ADJUSTERS—
see **Adjusters,** Cord

CORD, Arc Lamp
Braided and Twisted Cord for Suspending Arc Lamps, etc.

Fricke Co., J. E., 247 Market St., Philadelphia, Pa.

Mallison Braided Cord Co., Athens, Ga.

Samson Cordage Works, 88 Broad St., Boston, Mass.

Silver Lake Co., Newtonville, Mass.

CORD, Armored—
see **Cable,** Basket Weave Armored

CORD, Asbestos Covered
Flexible Parallel or Twisted Twin Conductors, Asbestos Covered and Cotton or Silk Braided

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore"
Cataloged on page 16

Americore—see American Steel & Wire Co.

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"

Boston Insulated Wire & Cable Co., 65 Bay St., Boston, Mass.

Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.

Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.

Davis-Jones Insulated Wire Co., Pawtucket, R. I.

Deltabeston—see General Electric Co.

Diamond Braiding Mills, Chicago Heights, Ill.

Driver-Harris Co., Harrison, N. J.
Cataloged on page 146

Eagle—see Anaconda Wire & Cable Co.

General Electric Co., Bridgeport, Conn "Deltabeston"
Cataloged on pages 67, 69

Goodyear Rubber Insulating Co.—see Graybar Electric Co.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Goodyear Rubber Insulating Co., New York, N. Y.)

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Hatfield Rubber Works, Hillside, N. J.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"

Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.

Paranite—see Indiana Rubber & Insulated Wire Co.

Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 39

Rome Wire Co., Rome, N. Y.
Cataloged on page 45

Ross Wire Co., 69 Bath St., Providence, R. I.

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.

United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Cataloged on page 47

US—see United States Rubber Co.

CORD, Battery Charging—
see **Cord,** Rubber Sheathed

CORD, Brewery—
see **Cord,** Heavy Duty

CORD, Canvasite—
see **Cord,** Heavy Duty

CORD CONNECTORS—
see **Plugs,** Extension Cord Connecting

CORD, Flexible Lamp—
see **Cord,** Twisted or Parallel

CORD, Heater—
see **Cord,** Asbestos Covered

CORD, Heavy Duty
Twisted or Parallel Cord insulated with Rubber, Jute filled and covered with two or more Layers of Cotton Braid

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore"
Cataloged on pages 15-16

Americore—see American Steel & Wire Co.

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Duracord" "Durawire" "Eagle"
Cataloged on page 23

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.

Boston Insulated Wire & Cable Co., 65 Bay St., Boston, Mass.

Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.

Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.

Davis-Jones Insulated Wire Co., Pawtucket, R. I.

Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.

Duracord—see Anaconda Wire & Cable Co.

Durawire—see Anaconda Wire & Cable Co.

Eagle—see Anaconda Wire & Cable Co.

General Electric Co., Bridgeport, Conn
Cataloged on page 67

Goodrich-Lenhart Mfg. Co., Hamburg, Pa.

Goodyear Rubber Insulating Co.—see Graybar Electric Co.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Goodyear Rubber Insulating Co., New York, N. Y.)

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Hatfield Rubber Works, Hillside, N. J.

Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"
Cataloged on page 25

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 117

Liberty—see National Electric Products Corp.

Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Liberty"

Okonite Co., Canal St., Passaic, N. J.

Paranite—see Indiana Rubber & Insulated Wire Co.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 39

Rome Wire Co., Rome, N. Y.
Cataloged on page 45

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Cataloged on page 47

US—see United States Rubber Co.

CORD HOLDERS—
see **Holders,** Electric Iron Cord

CORD, Lamp—
see **Cord,** Twisted or Parallel

CORD, Locomotive—
see **Cable,** Concentric
also **Cord,** Rubber Sheathed

CORD, Mining Machine—
see **Cable,** Concentric
also **Cord,** Rubber Sheathed

CORD, Packing House—
see **Cord,** Heavy Duty

CORD, Parallel—
see **Cord,** Twisted or Parallel

CORD, Pendent—
see **Cord,** Heavy Duty

CORD, Portable Heater—
see **Cord,** Asbestos Covered

CORD, Reinforced—
see **Cord,** Heavy Duty

CORD, Rubber Sheathed
Twisted or Parallel Cord with an Outside Rubber Sheath

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore"
Cataloged on page 16

Americore—see American Steel & Wire Co.

Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.

Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.

Dreadnaught—see Indiana Rubber & Insulated Wire Co.

General Electric Co., Bridgeport, Conn.
Cataloged on page 67

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Hatfield Rubber Works, Hillside, N. J.

Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Dreadnaught"
Cataloged on page 25

Okocord—see Okonite Co.

Okonite Co., Canal St., Passaic, N. J. "Okocord"

Providence Insulated Wire Co., 58 Waldo St., Providence, R. I.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 39

Rome Wire Co., Rome, N. Y.
Cataloged on page 45

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass. "Tirex"

Tirex—see Simplex Wire & Cable Co.

United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Cataloged on page 47

US—see United States Rubber Co.

CORD SWITCHES—

see **Switches,** Cord

CORD, Twisted or Parallel

Flexible Twin Conductors, Cotton Served, Rubber Covered and Braided, then Twisted or Paralleled with an Additional Silk or Cotton Braid; for Heavy Duty Cord—see Cord, Heavy Duty

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore"
Cataloged on page 15

Americore—see American Steel & Wire Co.

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Durawire" "Eagle"
Cataloged on page 23

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.

Boston Insulated Wire & Cable Co., 65 Bay St., Boston, Mass.

Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.

Cornish Wire Co., 30 Church St., New York, N. Y.

Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.

Davis-Jones Insulated Wire Co., Pawtucket, R. I.

Deltabeston—see General Electric Co.

Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.
Cataloged on page 21

Diamond Braiding Mills, Chicago Heights, Ill.

Driver-Harris Co., Harrison, N. J.

Durawire—see Anaconda Wire & Cable Co.

Eagle—see Anaconda Wire & Cable Co.

Enam-Wave—see Ross Wire Co.

General Electric Co., Bridgeport, Conn. "Deltabeston"
Cataloged on pages 66-67

Globe Insulated Wire Co., 148 Old Colony Ave., Wollaston, Mass.

Goodrich-Lenhart Mfg. Co., Hamburg, Pa.

Goodyear Rubber Insulating Co.—see Graybar Electric Co.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Whitney Blake Co., New Haven, Conn., also for Goodyear Rubber Insulating Co., New York, N. Y.)

Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.

Hatfield Rubber Works, Hillside, N. J.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"
Cataloged on pages 24-25

Liberty—see National Electric Products Corp.

Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Liberty"

New York Insulated Wire Co., 114 Liberty St., New York, N. Y.
Cataloged on page 26

Okonite Co., Canal St., Passaic, N. J.

Paranite—see Indiana Rubber & Insulated Wire Co.

Phillips Wire Co., Pawtucket, R. I.

Propp Co., M., 524 Broadway, New York, N. Y.

Providence Insulated Wire Co., 58 Waldo St., Providence, R. I.

Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 38-40

Rome Wire Co., Rome, N. Y.
Cataloged on page 45

Ross Wire Co., 69 Bath St., Providence, R. I. "Enam-Wave"

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

US—see United States Rubber Co.

United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Cataloged on page 47

White, J. M., 1128 Olive St., Philadelphia, Pa.

Whitney Blake Co.—see Graybar Electric Co.

Wilkens Electric Mfg. Corp., 52 Orawangum St., White Plains, N. Y.

CORD, Welding—

see **Cable,** Concentric
also **Cord,** Rubber Sheathed

CORDS, Appliance

Flexible Cords equipped with Appliance and Attachment Plugs

Advance Household Appliances, Inc., Wapakoneta, Ohio

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Carling Tool & Machine Co., 32 Union Pl., Hartford, Conn.

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Goodyear Rubber Insulating Co. — see Graybar Electric Co.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Goodyear Rubber Insulating Co., New York, N. Y.)

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hotpoint—see Edison General Electric Appliance Co.

Kasgil Mfg. Co., 3947 Armitage Ave., Chicago, Ill.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Lucas Electric Laboratories, Marengo, Ill.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill.

Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Samson-United Corp., 8 Jones St., Rochester, N. Y.

Smith & Co., T. C., 3915 Powelton Ave., Philadelphia, Pa.

Snoco—see Snow & Co.

Snow & Co., E. W., 29 N. Water St., Rochester, N. Y. "Snoco"

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Torrid—see Beardsley & Wolcott Mfg. Co.

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"

Universal—see Landers, Frary & Clark

Usalite—see United States Electric Mfg. Corp.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Wellmade Electric Mfg. Co., Torrington, Conn.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

CORDS, Extension

Flexible Cords equipped with Attachment Plugs and Plug Sockets; for Trouble Lamps—see Lamps, Portable Hand

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Eureka—see Morse Co.

Flex—see Hubbell, Inc.

Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa.

General Accessories Co., 135 Liberty St., New York, N. Y.

Hatfield Rubber Works, Hillside, N. J.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Flex"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"

Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.

Propp Co., M., 524 Broadway, New York, N. Y.

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Wilkens Electric Mfg. Co., 52 Orawangum St., White Plains, N. Y.

CORES, Refractory

Refractory Cores for supporting Elements for Heating Units; for Tubes for Induction Furnaces — see Tubes, Pyrometer

Alundum—see Norton Co.

American Lava Corp., 1419 William St., Chattanooga, Tenn.
Cataloged on page 152

Burgess & Co., 209 W. Fourth St., East Liverpool, Ohio

Colonial Insulator Corp., 943 Grant St., Akron, Ohio. "Hi-Heat"

Corns China Co., Wellsville, Ohio

Crowley & Co., Henry L., 545 N. Arlington Ave., East Orange, N. J.

Crystolon—see Norton Co.

CORES, Refractory (Continued)

Electrical Refractories Co., East Palestine, Ohio

Elemite—see Louthan Mfg. Co.

Hartford Faience Co., Hamilton St., Hartford, Conn.

Heat-Co—see Metsch Refractories Co.

Hi-Heat—see Colonial Insulator Co.

Louthan Mfg. Co., East Liverpool, Ohio "Elemite"

Metsch Refractories Co., East Liverpool, Ohio "Heat-Co"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
Cataloged on page 160

Norton Co., 1 New Bond St., Worcester, Mass. "Alundum" "Crystolon"

Peach Porcelain Co., East Liverpool, Ohio

Standard Porcelain Co., Leetonia, Ohio

Steward Mfg. Co., D. M., E. 36th St. Chattanooga, Tenn.

Thermal Syndicate, 58 Schenectady St. Brooklyn, N. Y. "Vitreosil"

Vitreosil—see Thermal Syndicate

Woolley, W. Douglas, N. E. cor. Market & Fourth Sts., East Liverpool, Ohio

CORN POPPERS—

see **Poppers,** Electric Corn

COTTON COVERED MAGNET WIRE—

see **Wire,** Cotton or Silk Covered Magnet
also **Wire,** Enameled Magnet

COTTON COVERED PARAFFINED WIRE—

see **Wire,** Cotton Covered and Paraffined

COTTON SLEEVING—

see **Tape and Sleeving,** Cotton

COTTON TUBING—

see **Tape and Sleeving,** Cotton

COTTON YARN—

see **Yarn,** Cotton or Silk

COUNTERS, Revolution

Covering only Companies Cataloging this Product

Viking Tool & Machine Co., 751 65th St., Brooklyn, N. Y.
Cataloged on page 142

COUPLINGS, Conduit—

see **Conduit,** Rigid Steel

COUPLINGS, Flexible Shaft

Flexible Shaft Couplings for use on Direct Connected Motor-Generators, etc.

Ajax Flexible Coupling Co., Welch Bldg., Westfield, N. Y.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

American Flexible Coupling Co., Erie, Pa.

Bartlett Hayward Co., Scott & McHenry Sts., Baltimore, Md. "Fast's"

Birkle Machine Works, 456 N. Union Ave., Chicago, Ill.

Bond Co., Charles, 617 Arch St., Philadelphia, Pa. "Grundy" "Mather"

Boston Gear Works Sales Co., Norfolk Downs, (Quincy) Mass.

Brown Co., A. & F., Elizabeth, N. J.

Brown Engineering Co., 123 N. Third St., Reading, Pa.

Bruce-Macbeth Engine Co., 2111 Center St., N.W., Cleveland, Ohio

Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio

De Laval Steam Turbine Co., N. Clinton Ave. & R. R. R., Trenton, N. J.

Dodge Mfg. Corp., Union St. & N. Y. C. R.R., Mishawaka, Ind.

Falk Corp., foot of 30th St., Milwaukee, Wis.

Farrel-Birmingham Co., 344 Vulcan St., Buffalo, N. Y.

Fast's—see Bartlett Hayward Co.

Flex-Ring—see National Equipment Corp.

Foote Bros. Gear & Machine Co., 111 N. Canal St., Chicago, Ill. "IXL"

Francke Co., New Brunswick, N. J.

Frederick Iron & Steel Co., Frederick, Md.

Gears & Forgings, Inc., 3000 Woodhill Rd., Cleveland, Ohio

Grundy—see Bond Co.

Hill Clutch Machine & Foundry Co., 6400 Breakwater St., N.W., Cleveland, Ohio

IXL—see Foote Bros. Gear & Machine Co.

James Mfg. Co., D. O., 1114 W. Monroe St., Chicago, Ill.

Jones Foundry & Machine Co., W. A., 4447 W. Roosevelt Rd., Chicago, Ill.

L-R—see Lovejoy Tool Works

Link-Belt Co., 910 S. Michigan Ave. Chicago, Ill.

Lovejoy Tool Works, 331 W. Ohio St. Chicago, Ill "L-R"

Mather—see Bond Co.

Medart Co., Potomac & De Kalb Sts., St. Louis, Mo.

Meriam Co., 1955 W. 112th St., Cleveland, Ohio

National Equipment Corp., 31st St., & Concordia Ave., Milwaukee, Wis. "Flex-Ring"

Nicholson & Co., W. H., 12 Oregon St., Wilkes-Barre, Pa.

Palmer-Bee Co., 1721 Poland Ave., Detroit, Mich.

Philadelphia Gear Works, Erie Ave. & G St., Philadelphia, Pa.

Poole Engineering & Machine Co., (Woodberry) Baltimore, Md.

Smith Power Transmission Co., 1213 W Third St., Cleveland, Ohio

Terry Steam Turbine Co., Terry Sq. Hartford, Conn.

Thomas Flexible Coupling Co., Warren, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

COUPLINGS, Solderless—

see **Connectors,** Solderless Insulated
also **Connectors,** Solderless Uninsulated

COVERED STRANDED ENAMELED WIRE—

see **Wire,** Covered Stranded Enameled

COVERS, Fan

Fabric Covers for Winter Protection

American Writing Machine Co., 449 Central Ave., Newark, N. J.

Droutman Mfg. Co., 30 W. 60th St., New York, N. Y.

Empire Shield Co., 590 Broadway, New York, N. Y. "Superior"

Superior—see Empire Shield Co.

COVERS, Glass Battery—

see **Jars,** Glass Battery

COVERS, Outlet Box—

see **Boxes,** Outlet and Switch

COVERS, Padded Appliance

Heavy Padded Covers to protect Appliances During Delivery

Lansing Sales Co., 24 Harvard St., Boston, Mass.

Reach Textile Co., A. L., 6 W. 20th St., New York, N. Y.

Webb & Co., Charles J., 116 Chestnut St., Philadelphia, Pa.

COVERS, Pull Box—

see **Boxes,** Pull

COVERS, Socket—

see **Canopies,** Fixture
also **Holders,** Shade

CRANE MOTORS—

see **Motors,** A.C. Slip-Ring
also **Motors,** D.C. Compound
also **Motors,** D.C. Series

CROSSARM BOLTS—

see **Bolts,** Crossarm

CROSSARM BRACES—

see **Braces,** Crossarm

CROSSARM CLAMPS—

see **Clamps,** Crossarm

CROSSARM PROTECTORS—

see **Shields,** Lineman's Protecting

CROWFEET—

see **Studs,** Fixture

CUPS, Candle—

see **Canopies,** Fixture

CUPS, Mercury Contact—

see **Tubes,** Mercury Contact

CURLING IRON ELEMENTS—

see **Elements,** Curling Iron

CURLING IRON HEATERS—

see **Heaters,** Electric Curling Iron

CURLING IRONS—

see **Irons,** Electric Curling

CURRENT BREAKERS—

see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

CURRENT RELAYS—

see **Relays,** Current Control

CURRENT TAPS—

see **Plugs,** Multiple Tap
also **Sockets,** Multiple

CURRENT TRANSFORMERS—

see **Transformers,** Instrument
also **Transformers,** Radio Power

CUSHIONS, FELT—

see **Felt,** Cutters of

CUTOUT BLOCKS—

see **Blocks,** Low Voltage Cartridge Fuse
also **Cutouts,** Plug Fuse

CUTOUT BOXES—
see **Boxes,** Cutout and Switch

CUTOUTS, Fuse—
see **Blocks,** Low Voltage Cartridge Fuse
also **Cutouts,** Plug Fuse

CUTOUTS, Low Voltage Cartridge Fuse—
see **Blocks,** Low Voltage Cartridge Fuse

CUTOUTS, Plug Fuse
Insulated Bases having Edison Base Receptacles for Plug Fuses; for Cutouts for Cartridge Fuses—see Blocks, Low Voltage Cartridge Fuse

A &W—see Armstrong & White
Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page **56**
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page **61**
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Electric Fuseguard Co., 1002 W. Main St., Charlottesville, Va.
General Electric Co., Bridgeport, Conn.
Heco—see Heinemann Electric Co
Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Heco"
K-C—see King Mfg. Co.
Kansas City Fuse Co., 4727 Euclid Ave., Kansas City, Mo.
King Mfg. Co., B. C., 302 Park Ave., Brooklyn, N. Y. "K-C"
Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.
Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"
Noark—see Colt's Patent Fire Arms Mfg. Co.
Paiste—see Arrow-Hart & Hegeman Electric Co.
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)
Square D Co., 6060 Rivard St., Detroit, Mich.
Tecco—see Meteor Electric Corp.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.
Weber Electric Co.—see Sears, Henry D.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CUTTERS, Armored Cable
Hand Tools for Cutting Flexible Metallic Conduit

Telkor, Inc., Elyria, Ohio
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.

CUTTERS, Commutator Milling—
see **Saws,** Commutator Slotting

CUTTERS, Flexible Metallic Conduit—
see **Cutters,** Armored Cable

CUTTERS, Hand Conduit
Hand Tools for Cutting Pipe and Conduit

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.
Armstrong Bros. Tool Co., 357 N. Francisco Ave., Chicago, Ill.
Armstrong Mfg. Co., Knowlton St., Bridgeport, Conn.
Beaver—see Borden Co.
Borden Co., 513 Dana Ave., Warren, Ohio "Beaver"
Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.
Erie Tool Works, 11th & French Sts., Erie, Pa.
General Electric Co., Bridgeport, Conn.
Greenfield Tap & Die Corp., Sanderson St., Greenfield, Mass.
Hollands Mfg. Co., 350 E. 18th St., Erie, Pa.
Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.
Oster Mfg. Co., 2057 E. 61st St., Cleveland, Ohio
Oswego Tool Co., Oswego, N. Y.
Reed Mfg. Co., Erie, Pa.
Toledo Pipe Threading Machine Co., 1425 Summit St., Toledo, Ohio "Vosper"
Trimo—see Trimont Mfg. Co.
Trimont Mfg. Co., 55 Amory St., (Roxbury) Boston, Mass. "Trimo"
Vosper—see Toledo Pipe Threading Machine Co.
Walworth Co., Statler Bldg., Boston, Mass.

CUTTERS, Pipe—
see **Cutters,** Hand Conduit

CUTTERS, Plaster
Saws for Cutting Plaster to permit the Setting of Switch, Outlet or Ceiling Boxes

Jiffy—see Koch & Co.
Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"

CUTTERS, Steel Panel and Box
Rotary Hack Saws and Fly Cutters for Cutting Holes in Metal Panels or Boxes

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page **135**
Crescent—see Mullenbach Electric Mfg. Co.
Hugue Mfg. Co., 146 Broadway, Brooklyn, N. Y.
Jiffy—see Koch & Co.
Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"
Misener Mfg. Co., 326 E. Washington St., Syracuse, N. Y.
Cataloged on page **140**
Mullenbach Electric Mfg. Co., 1116 E. 16th St., Los Angeles, Cal. "Crescent"

CUTTING MACHINES, Cloth—
see **Machines,** Cloth Cutting

CYLINDER GROUNDS—
see **Grounds,** Cone and Cylinder

DAYLIGHT LAMPS—
see **Lamps,** Incandescent
also **Lamps,** Therapeutic

DEAD ENDING CLAMPS—
see **Clamps,** Dead Ending

DEAD ENDING CLEVISES—
see **Clevises,** Bolt

DEAD FRONT LEVER SWITCHES—
see **Switches,** Dead Front Lever

DECALCOMANIAS—
see **Transfers,** Decalcomania

DECK CABLE—
see **Cord,** Heavy Duty

DELAYED EXTINGUISHMENT SWITCHES—
see **Switches,** Delayed Extinguishment

DEMAGNETIZERS
A.C. and D.C. Type Demagnetizers

Green Electric Co., W., 182 Broadway, New York, N. Y.
Luma Electric Equipment Co., 909 Prospect Ave., Toledo, Ohio

DEMAND CONTROLLERS—
see **Relays,** Demand Limiting

DEMAND LIMITING BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

DEMAND LIMITING RELAYS—
see **Relays,** Demand Limiting

DEMAND METERS—
see **Meters,** Demand

DESICCATED BATTERIES—
see **Batteries,** Desiccated

DESK FANS—
see **Fans,** Desk and Bracket

DESK FIXTURES—
see **Fixtures,** Public Building Desk

DESK LAMPS—
see **Lamps,** Residential Table or Desk

DESK PUSH BUTTONS—
see **Buttons,** Flush Push

DETECTORS, Ground—
see **Sets,** Electrical Testing

DETECTORS, Voltage
Instruments and Portable Sets for Locating Short Circuits and Determining Voltage; for Voltmeters—see Ammeters and Voltmeters; for Insulation Testers—see Sets, Insulation Testing

Co-operative Utilities Co., 1503 Columbia Ave., Philadelphia, Pa. "Shortfinder"
Electric Tester Mfg. Co., Sherlock Bldg., Portland, Ore.
Glowtector—see Wilson Corp., W. S.
Lundin Electric & Machine Co., 10 Thatcher St., Boston, Mass.
Matthews Corp., W. N., 3718 Forest Park Blvd. "Telefault"
Roller-Smith Co., 11 Barclay St., New York, N. Y.
S & C—see Schweitzer & Conrad
Schweitzer & Conrad, 4439 Ravenswood Ave., Chicago, Ill. "S & C"
Shortfinder—see Co-operative Utilities Co.
Telefault—see Matthews Corp., W. N.
Wiggington Co., 434 Church St., Kalamazoo, Mich.
Wilson Corp., W. S., 123 Varick St., New York, N. Y. "Glowtector"

DIALS, Meter—
see **Plates,** Name

DIE CASTINGS—
see **Castings,** Die

DIES, Pipe—
see **Stocks and Dies,** Conduit Threading

DIFFERENTIAL RELAYS—
see **Relays,** Current Control

DIMMER FLASHERS—
see **Flashers,** Motor-Operated

DIMMER PANELS—
see **Switchboards,** Builders of

DIMMING SOCKETS—
see **Sockets,** Dimming or Regulating

DIRECTORY FRAMES—
see **Holders,** Card

DISC FANS—
see **Fans,** Electric Propeller

DISC STOVES—
see **Plates,** Electric Hot

DISCS, Color
Covering only Companies Cataloging this Product

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill.
Cataloged on page **120**

DISH WASHERS—
see **Washers,** Electric Household Dish

DISHES, Chafing—
see **Chafers,** Electric

DISPLAY CABINETS—
see **Cabinets,** Lamp Display

DISPLAY TURNTABLES—
see **Turntables,** Electric Display

DISTRIBUTION CENTERS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

DISTRIBUTION GROUPS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

DOOR OPENERS—
see **Openers, Electromagnetic Door**
also **Openers,** Motor-Operated Door

DOOR SWITCHES—
see **Switches, Door Flush**

DOUBLE ARMING BOLTS—
see **Bolts,** Double Arming

DOUBLE CURRENT GENERATORS—
see **Generators,** Double Current

DOUGHNUT MOLDS—
see **Cookers,** Electric Doughnut

DRAINING PUMPS, Clothes Washer—
see **Pumps,** Clothes Washer Draining

DRIERS, Centrifugal Clothes
Motor Operated Centrifugal Driers; for Washers combined with Centrifugal Driers—see Washers, Electric Clothes

Bock Laundry Machine Co., Toledo Factories Bldg., Toledo, Ohio

DRIERS, Electric Hair
Small Blowers with or without Heating Elements for use in Drying Hair

Arnold Electric Co., 1220 Washington Ave., Racine, Wis.

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Chicago Motor & Vibrator Co., 200 N. Jefferson St., Chicago, Ill. "Standard"

Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvel"

Electare Co., 636 Church St., Evanston, Ill.

Electric Mfg. Co., 27 Thames St., New York, N. Y. "Solar"

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Frederics, Inc., E., 235 E. 45th St., New York, N. Y.

Geier Co., P. A., 540 E. 105th St., Cleveland, Ohio "Royal Therm-Air"

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.

Hamilton Beach Mfg. Co., 1501 Rapids Dr., Racine, Wis.

Martin Bros. Electric Co., 1858 E. 40th St., Cleveland, Ohio

Marvel—see Eastern Laboratories

Meyer Co., Wm., 1648 N. Girard St., Chicago, Ill. "Sunaero"

Moore Electric Corp., 605 Washington Blvd., Chicago, Ill.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Polar Cub—see Gilbert Co.

Royal Therm-Air—see Geier Co.

Solar—see Electric Mfg. Co.

Standard—see Chicago Motor & Vibrator Co.

Star-Rite—see Fitzgerald Mfg. Co.

Sunaero—see Meyer Co.

Wahl Clipper Corp., Sterling, Ill.

White Cross—see National Stamping & Electric Works

DRIERS, Electric Hand and Face
Cabinet and Hand Type Blowers equipped with Heating Elements for Drying the Hands and Face

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Chicago Hardware & Foundry Co., North Chicago, Ill. "Sani Dri"

Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvel"

Electric Towel—see General Utilities Mfg. Co.

General Utilities Mfg. Co., 4058 Beaufait Ave., Detroit, Mich. "Electric Towel"

Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.

Marvel—see Eastern Laboratories

Sani Dri—see Chicago Hardware Foundry Co.

DRIERS, Electrically Heated Clothes
Electrically Heated Cabinets fitted with Racks for Drying Clothes

Campbell Co., Wm., 1000 N. Union Ave., Alliance, Ohio

Canton Clothes Dryer Co., 1201 Camden Ave., S. W., Canton, Ohio

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.

Lamneck Co., W. E., 416 Dublin St., Columbus, Ohio

Nudriaire—see Osterhout Electric Corp.

Osterhout Electric Corp., 222 N. 13th St., Philadelphia, Pa. "Nudriaire"

Prometheus Electric Corp., 360 W. 13th St., New York, N. Y.

Scientific Heater Co., 2102 Superior Viaduct, N. W., Cleveland, Ohio

Suttle Equipment Co., 400 N. Michigan Ave., Chicago, Ill.

Wesix, Inc., Rialto Bldg., San Francisco, Cal.

DRILL GRINDING ATTACHMENTS—
see **Buffers** and **Grinders**

DRILL STANDS—
see **Stands,** Bench Drill

DRILLS, Breast—
see **Drills,** Hand and Breast

DRILLS, Brick or Concrete
For Hammer and Spring Drills—see Drills, Hammer and Spring

American Swiss File & Tool Co., 410 Trumbull St., Elizabeth, N. J.

Car-Van Steel Products Co., 1224 Fifth St., S. W., Canton, Ohio

Diamond Expansion Bolt Co., Garwood, N. J.

Duffy Mfg. Co., 214 W. Grand Ave., Chicago, Ill.

Fairmount Tool & Forging Co., 10611 Quincy Ave., Cleveland, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Kilborn & Bishop Co., 196 Chapel St., New Haven, Conn.

Kraeuter & Co., 585 18th Ave., Newark, N. J.

Rawlplug Co., 66 W. Broadway, New York, N. Y.

Sebco—see Star Expansion Bolt Co.

Star Expansion Bolt Co., 147 Cedar St., New York, N. Y. "Sebco"

U. S. Expansion Bolt Co., 141 Franklin St., New York, N. Y.

Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio

Van Expansion Bolt Mfg. Co., 309 S. La Salle St., Chicago, Ill.

Village Blacksmith Folks, Watertown, Wis.

DRILLS, Ceiling—
see **Drills,** Hammer and Spring

DRILLS, Electric Portable
Portable Electric Rotary Drills equipped with Cord; for Hammer Type Drills—see Drills, Hammer and Spring

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on pages **134-135**

Bull Dog—see National Electric Products Co.

Chicago Pneumatic Tool Co., 6 E. 44th St., New York, N. Y. "Little Giant"

Cico—see Consolidated Instrument Co. of America

Cincinnati Electrical Tool Co., 2677 Madison Rd., Cincinnati, Ohio
Clark, Jr., Electric Co., Jas., 600 Bergman St., Louisville, Ky.
Consolidated Instrument Co. of America, 305 E. 47th St., New York, N. Y. "Cico"
Dumore Co., 93 16th St., Racine, Wis.
Gilfillan Bros., 1815 Venice Blvd., Los Angeles, Cal.
Goodell-Pratt Co., Wells St., Greenfield, Mass.
Hisey-Wolf Machine Co., Colerain & Marshall Aves., Cincinnati, Ohio
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago, Ill. "Thor"
Jones-Motrola, Inc., 370 Gerard Ave., New York, N. Y.
Little Giant—see Chicago Pneumatic Tool Co.
Millers Falls Co., Millers Falls, Mass.
Misener Mfg. Co., 326 E. Washington St., Syracuse, N. Y.
Cataloged on page 140
National Electric Products Co., 208 Centre St., New York, N. Y. "Bull Dog"
Portable Power Tool Corp., Warsaw, Ind. "Power King"
Power King—see Portable Power Tool Corp.
Schauer Machine Co., 907 Broadway, Cincinnati, Ohio
Speedway Mfg. Co., 1834 S. 52d Ave., Cicero, Ill.
Standard Electrical Tool Co., 1946 W. Eighth St., Cincinnati, Ohio
Stanley Electric Tool Co., New Britain, Conn.
Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.
Stow Mfg. Co., 445 State St., Binghamton, N. Y.
Syntron Co., 400 N. Lexington Ave., Pittsburgh, Pa.
Thor—see Independent Pneumatic Tool Co.
U. S.—see United States Electrical Tool Co.
United States Electrical Tool Co., 2496 W. Sixth St., Cincinnati, Ohio "U. S."
Up-To-Date Machine Works, 2911 S. Wabash Ave., Chicago, Ill.
Van Dorn Electric Tool Co., 300 Woodhill Rd., Cleveland, Ohio
Wodack Electric Tool Corp., 4627 W. Huron St., Chicago, Ill.

DRILLS, Hammer—

see **Drills,** Hammer and Spring
also **Hammers,** Electric Portable

DRILLS, Hammer and Spring

Manually Crank Operated Portable Drills for use in Drilling Holes in Masonry

Chicago Expansion Bolt Co., 125 S. Clinton St., Chicago, Ill.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"
Line Material Co., South Milwaukee, Wis.
Peirce—see Hubbard & Co.
Phillips Drill Co., 1537 Cortland St., Chicago, Ill.
Sebco—see Star Expansion Bolt Co.
Star Expansion Bolt Co., 147 Cedar St., New York, N. Y. "Sebco"

DRILLS, Hand and Breast

Manually Operated Drills; for Braces for use with Auger Bits—see Braces, Angle and Ratchet

Goodell-Pratt Co., Wells St., Greenfield, Mass.
Millers Falls Co., Millers Falls, Mass.
North Bros. Mfg. Co., cor. American St. & Lehigh Ave., Philadelphia, Pa. "Yankee"
Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.
Yankee—see North Bros. Mfg. Co.

DRINK MIXERS—

see **Machines,** Kitchen Appliance Operating
also **Mixers and Whippers,** Commercial Type
also **Mixers and Whippers,** Household Type

DRIVE CAPS—

see **Rods,** Ground

DRIVE POINTS—

see **Rods,** Ground

DRIVERS, Wedge—

see **Tools,** Armature Repair

DRIVES, Pump—

see **Jacks,** Motor Driven Pump

DROP FORGINGS—

see **Forgings,** Drop

DROP TYPE BRACES—

see **Braces,** Crossarm

DRUM CONTROLLERS—

see **Controllers,** Manual Motor

DRY BATTERIES—

see **Batteries,** Desiccated
also **Batteries,** Primary Dry

DRYERS—

see **Driers,** Centrifugal Clothes
also **Driers,** Electric Hair
also **Driers,** Electric Hand and Face
also **Driers,** Electrically Heated Clothes

DRYING COMBS—

see **Combs,** Electrically Heated

DRYING OVENS—

see **Ovens,** Commercial Industrial

DUCT, Cable—

see **Conduit**

DUCT, Wiring Trough—

see **Molding and Fittings,** Metal

DYNAMIC SPEAKERS—

see **Speakers,** Loud

DYNAMO STEEL—

see **Steel,** Silicon Sheet

DYNAMOMETERS, Motor Testing

Transmission and Absorption Dynamometers for Measuring Forces

Continental Electric Co., 323 Ferry St., Newark, N. J.
Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Graham Co., Warren C., Godcheaux Bldg., New Orleans, La.
Marble-Card Electric Co., Gladstone, Mich.
Murray Iron Works Co., Central Ave. & Washington St., Burlington, Iowa
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

DYNAMOS—

see **Generators**

EAR PHONES for the DEAF—

see **Amplifiers,** Sound

EARS, Outlet Box—

see **Hangers,** Outlet Box

EGG BEATERS—

see **Machines,** Kitchen Appliance Operating
also **Mixers and Whippers,** Commercial
also **Mixers and Whippers,** Household

ELBOWS, Conduit—

see **Conduit,** Rigid Steel

ELECTRICAL SHEETS—

see **Steel,** Silicon Sheet

ELECTRICIAN'S KNIVES—

see **Knives,** Cable Sheath Splitting
also **Knives,** Wire Stripping

ELECTRODES, Welding

see also Wire and Rods, Welding Covering only Companies Cataloging this Product

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 43

ELECTROLYTE, Storage Battery—

see **Acid,** Sulphuric

ELECTROLYTE THERMOMETERS—

see **Thermometers,** Battery

ELECTROLYTIC CHARGERS—

see **Rectifiers,** Battery Charging Electrolytic or Chemical

ELECTROMAGNETIC FREQUENCY METERS—

see **Meters,** Frequency

ELECTROMECHANICAL BELLS—

see **Bells,** Electromechanical

ELECTROPLATING GENERATORS—

see **Generators,** Plating

ELEMENTS, Curling Iron

Heating Elements for use in Curling Irons or Heated Combs

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

ELEMENTS, Flat Iron

Heating Elements for use in Electric Pressing Irons

Buffalo Products Co., Broome & Lafayette Sts., New York, N. Y.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Ogden Mfg Co., 3947 Armitage Ave., Chicago, Ill. "Renuall"
Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.
Presto Products Co., 128 E. 23d St., New York, N. Y.
Renuall—see Ogden Mfg. Co.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio
Snoco—see Snow & Co.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y. "Snoco"

ELEMENTS, Flat Iron (Contd)

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

ELEMENTS, Heated Comb—

see **Elements,** Curling Iron

ELEMENTS, Radiant Heater

Edison Base and Horizontal Heating Elements for use in Radiant Heaters

Dalton-Marsh Co., 90 Holten St., Danvers, Mass.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Kruesheld Electric & Mfg. Co., 1133 Broadway, New York, N. Y.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.

Polar Cub—see Gilbert Co.

Presto Products Co., 128 E. 23d St., New York, N. Y.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Snoco—see Snow & Co.

Snow & Co., E. W., 29 N. Water St., Rochester, N. Y. "Snoco"

Star-Rite—see Fitzgerald Mfg. Co.

Universal—see Landers, Frary & Clark

Utica Products, Inc., Utica, N. Y.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

ELEMENTS, Range

Heating Elements for use in Electric Ranges

Chromalox—see Wiegand Co., Edwin L.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Hotpoint—see Edison General Electric Appliance Co.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

ELEMENTS, Thermocouple—

see **Thermocouples**

ELEVATOR ANNUNCIATOR WIRE—

see **Cable,** Elevator Annunciator

ELLS, Service—

see **Fittings,** Threaded Conduit

ENAMELED MAGNET WIRE—

see **Wire,** Enameled Magnet

ENAMELING OVENS—

see **Ovens,** Commercial Industrial

END BELLS, Cable—

see **Potheads**

END BODIES—

see **Fittings,** Fixture

END CONDUIT FITTINGS—

see **Fittings,** Threaded Conduit
also **Fittings,** Threadless Conduit

ENGRAVING MACHINES—

see **Markers,** Electric Tool

ENTRANCE SWITCHES—

see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit
also **Switches,** Fused Entrance

ERASING MACHINES—

see **Machines,** Electric Erasing

ETCHERS—

see **Markers,** Electric Tool

ETCHING COMPOUNDS—

see **Compounds, Racks and Stamps,** Glass Etching

ETCHING OUTFITS—

see **Compounds, Racks and Stamps,** Glass Etching

EXCITERS—

see **Generators,** D. C. Shunt and Compound

EXERCISERS, Electric

Motor Operated Appliances for Household or Professional Use

Auto Engrg. & Machine Co., 4916 Germantown Ave., Philadelphia, Pa. "Trix"

Budd—see Portex Mfg. Co.

Burdick Corp., Milton, Wis.

Burke Machine Tool Co., Conneaut, Ohio "Robur"

Daley Equipment Co., 5716 Euclid Ave., Cleveland, Ohio

Diamond Appliance Co., South Bend, Ind.

Electric Machine Corp., 520 S. New Jersey St., Indianapolis, Ind. "Elmco"

Electro-Ciser—see Lincoln Mfg. Co.

Elmco—see Electric Machine Corp.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fay Health Motors Co., 168 Brighton Ave., Boston, Mass.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

Gelb Co., Joseph, 250 W. 54th St., New York, N. Y. "Nova"

General Electric Co., 1 River Rd., Schenectady, N. Y.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y. "Jack-Sprat"

Health-Elator, Inc., 11 W. 42d St., New York, N. Y.

Health Glo—see Scott, Inc.

Health Motor—see Savage Arms Corp.

Healthizer—see Master Electric Co.

Hollywood Health Devices, Inc., Cincinnati, Ohio

Holm's Mfg. Co., Kenosha, Wis. "Vibratone"

Hurley Machine Co., 22d St. & 54th Ave., Chicago, Ill. "Thor"

Jack-Sprat—see Halliwell-Shelton Electric Co.

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.

Jizor Mfg. Co., Hartford, Conn.

Knott & Garllus Co., 3951 A St., Detroit, Mich. "Vita"

Lincoln Mfg. Co., Connersville, Ind. "Electro-Ciser"

Luther, Inc., 287 S. Water St., Milwaukee, Wis. "Rekreator"

McDowell Mfg. Co., (Millvale) Pittsburgh, Pa.

Master Electric Co., Linden & Master Aves., Dayton, Ohio "Healthizer"

National Health Appliance Corp., 1676 N. Claremont Ave., Chicago, Ill.

Nova—see Gelb Co., Joseph

Nu-Life—see Oakes-Swenson Co.

Oakes-Swenson Co., 1470 E. 19th St., Indianapolis, Ind. "Nu-Life"

Pep-Motor Mfg. Co., 1307 Grand Ave., Kansas City, Mo.

Portex Mfg. Co., 200 Varick St., New York, N. Y. "Budd"

Rekreator—see Luther, Inc.

Robur—see Burke Machine Tool Co.

Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.

Savage Arms Corp., 71 Savage Ave., Utica, N. Y. "Health Motor"

Scott, Inc., L. L., 2926 S. Broadway, St. Louis, Mo. "Health Glo"

Star-Rite—see Fitzgerald Mfg. Co.

Sunshine—see Wise-McClung Corp.

Suttle Equipment Co., 400 N. Michigan Ave., Chicago, Ill.

Sylph-Apollo Mfg. Co., Messinger Bldg., Toledo, Ohio

Thor—see Hurley Machine Co.

Tower Mfg., Corp., 122 Brookline Ave., Boston, Mass.

Trix—see Auto Engrg. & Machine Co.

Vibratone—see Holm's Mfg. Co.

Vita—see Knott & Garllus Co.

Vulcan Mfg. Co., 1511 Cypress St., Kansas City, Mo.

Wise-McClung Corp., 443 Park St., New Philadelphia, Ohio. "Sunshine"

Zylarator Corp., 2360 W. Jefferson St., Detroit, Mich.

EXHAUST FANS—

see **Fans,** Electric Propeller
also **Fans,** Window Ventilating

EXHAUSTERS—

see **Blowers,** Centrifugal
also **Fans,** Electric Propeller

EXIT SIGNS—

see **Signs,** Internally Lighted

EXPANSION BOLTS—

see **Bolts, Expansion**

EXPANSION SHIELDS—
see **Bolts,** Expansion

EXTENSION BIT HOLDERS—
see **Extensions,** Bit

EXTENSION CORD REELS—
see **Reels,** Extension Cord

EXTENSIONS, Bit
Long Shank Chucks for use with Standard Auger Bits

Goodell-Pratt Co., Wells St., Greenfield Mass.

Millers Falls Co., Millers Falls, Mass.

North Bros. Mfg. Co., cor. American St. & Lehigh Ave., Philadelphia, Pa.

Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.

EXTENSIONS, Pole Top—
see **Brackets,** Metal Insulator

EXTRACTORS, Fruit Juice
Motor Driven Fruit Juice Extractors

Arnold Electric Co., 1220 Washington Ave., Racine, Wis.

Blessing Electric & Mfg. Co., 900 N. Franklin St., Chicago, Ill. "Sunkist"

Eskimo—see United Electrical Mfg. Co.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Sunkist—see Blessing Electric & Mfg. Co

United Electrical Mfg. Co., Logan St., Adrian, Mich. "Eskimo"

EYE BOLTS—
see **Bolts,** Eye

EYELET SETTING MACHINES—
see **Machines,** Eyelet Setting

EYELETS
Brass, Copper or Aluminum Eyelets; for Eyelet Setting Machines—see Machines, Eyelet Setting

American Ring Co., 531 Bank St., Waterbury, Conn. "Ringco Brand"

Barrett Bindery Co., 1342 W. Monroe St., Chicago, Ill.

Dallas Brass & Copper Co., 820 Orleans St., Chicago, Ill.

Empire Electric & Mfg. Co., Plainville. Conn.

Grammes & Sons, L. F., Allentown, Pa.

Mattatuck Mfg. Co., E. Main St., Waterbury, Conn.

Peerless Machinery Co., 44 Binford St., Boston, Mass.

Platt Bros. & Co., Waterbury, Conn.

Ringco Brand—see American Ring Co.

Risdon Mfg. Co., Naugatuck, Conn.

Stimpson Co., Edwin B., 70 Franklin Ave., Brooklyn, N. Y.

United Shoe Machinery Corp., Albany Bldg., Boston, Mass.

Waterbury Brass Goods Corp., 26 Crane St., Waterbury, Conn.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.
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EYES, Ball—
see **Forgings,** Drop

FABRIC GEARS and PINIONS—
see **Gears and Pinions,** Fibre and Fabric

FABRIC SHADES—
see **Shades,** Fabric

FABRIC SLEEVING—
see **Tubing,** Varnished or Oiled Fabric

FABRICS, Insulating—
see **Fabrics,** Varnished or Oiled

FABRICS, Varnished or Oiled
Varnished or Oiled Cotton, Silk, Linen, etc.; for Varnished or Oiled Tape—see Tape, Varnished or Oiled

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn.

Cellulak—see Irvington Varnish & Insulator Co.

Empire—see Mica Insulator Co.

General Electric Co., Bridgeport, Conn.

I. C. A.—see Insuline Corp.

Insuline Corp. of America, 80 Cortlandt St., New York, N. Y. "I. C. A."

Irv-O-Slot—see Irvington Varnish & Insulator Co.

Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J. "Cellulak" "Irv-O-Slot"

Mica Insulator Co., 200 Varick St., New York, N. Y. "Empire"
Cataloged on page 154

New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.

Standard Insulation Co., 74 Paterson Ave., East Rutherford, N. J.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 10

FACE DRIERS—
see **Driers,** Electric Hand and Face

FAN BOXES—
see **Boxes,** Wall Fan

FAN COVERS—
see **Covers,** Fan

FAN MOTORS—
see **Motors,** Fractional Horsepower

FAN PANELS—
see **Fans,** Window Ventilating

FANS, Ceiling
For Suspending from Ceiling

Aircraft Mfg. Co., 480 Huffman Ave., Dayton, Ohio "Fan-O-Plane"

Century Electric Co., 1806 Pine St., St Louis, Mo.

Dallas Engineering Corp., 4321 Elm St., Dallas, Texas

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fan-O-Plane—see Aircraft Mfg. Co.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., Bridgeport, Conn.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Hunter Fan & Motor Co., 53 Park Pl., New York, N. Y.

Kennedy Machine & Brass Co., 2234 Live Oak St., Dallas, Tex.

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Robbins & Myers, 1345 Lagonda Ave. Springfield, Ohio

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Western Electric Co., 195 Broadway, New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FANS, Centrifugal—
see **Blowers and Fans,** Centrifugal

FANS, Column—
see **Fans,** Ceiling

FANS, Conoidal—
see **Blowers,** Centrifugal

FANS, Desk and Bracket
Oscillating and Non-Oscillating Desk and Bracket Fans

Aerovent—see Piqua Electric Mfg. Co.

Airator—see Savory, Inc.

AirSter—see W-P Corp.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Cincinnati Victor Co., 712 Reading Rd., Cincinnati, Ohio. "Victor"

Coolee Mfg. Co., Sandusky, Ohio. "O'Kay"

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

De Bothezat Impeller Co., 1922 Park Ave., New York, N. Y.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Eck Electric Co., 14 Magazine St., Newark, N. J.

Electro Mfg. Co. of America, 32d & Arch Sts., Philadelphia, Pa.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo. "Northwind"

Eskimo—see United Electrical Mfg. Co.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., Bridgeport, Conn.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Hunter Fan & Motor Co., 53 Park Pl., New York, N. Y.

Knapp Electric, Inc., Port Chester, N. Y.

Northwind—see Emerson Electric Mfg. Co.

O'Kay—see Coolee Mfg. Co.

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Piqua Electric Mfg. Co., 118 South St., Piqua, Ohio "Aerovent"

Polar Cub—see Gilbert Co.

R. & S.—see Russell & Stoll Co.

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Savory, Inc., 90 Alabama St., Buffalo, N. Y. "Airator"

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Star-Rite—see Fitzgerald Mfg. Co.

United Electrical Mfg. Co., Logan St., Adrian, Mich. "Eskimo"

Victor—see Cincinnati Victor Co.

W-P Corp., Cairo, Ill. "AirSter"

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Western Electric Co., 195 Broadway, New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 103

FANS, Disc—
see **Fans,** Electric Propeller

FANS, Electric Propeller
Exhaust or Ventilating Fans Mounted on the Motor Shaft; see also Fans, Window Ventilating; for Desk Fans—see Fans, Desk and Bracket

Aerovent—see Piqua Electric Mfg. Co.

Airmaster Corp., 140 S. Dearborn St., Chicago, Ill.

American Blower Corp., 6000 Russell St., Detroit, Mich. "Ventura"
Cataloged on page 121

Autovent Fan & Blower Co., 1814 N. Kostner Ave., Chicago, Ill.
Cataloged on page 122

Breezo—see Buffalo Forge Co.

Buffalo Forge Co., 507 Broadway, Buffalo, N. Y. "Breezo"
Cataloged on page 123

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Champion Blower & Forge Co., Harrisburg Ave., Lancaster, Pa.

Charavay—see Hartzell Propeller Co.

Cincinnati Victor Co., 712 Reading Rd., Cincinnati, Ohio. "Victor"

Dallas Engineering Corp., 4321 Elm St., Dallas, Texas

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

De Bothezat Impeller Co., 1922 Park Ave., New York, N. Y.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
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Economy Electric Mfg. Co., 4634 W. 21st Pl., Cicero, Ill.

Electrovent Corp., 5057 Woodward Ave., Detroit, Mich.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Eskimo—see United Electrical Mfg. Co.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

Garden City Fan Co., 332 S. Michigan Ave., Chicago, Ill.

General Electric Co., Bridgeport, Conn.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Gilbert & Co., Walter B., Sixth Ave. & Yale St., York, Pa.

Hartzell Propeller Co., Piqua, Ohio "Charavay"

Hunter Fan & Motor Co., 53 Park Pl., New York, N. Y.

Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill. "Ilgair"

Ilgair—see Ilg Electric Ventilating Co.

Johnson Fan & Blower Co., 1319 W. Lake St., Chicago, Ill.
Cataloged on page 124

Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal. "Rotarex"

Landers, Frary & Clarke, 47 Center St., New Britain, Conn. "Universal"

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

Meier Electric & Machine Co., 136 S. Meridian St., Indianapolis, Ind. "Nu-Air"

Nedco—see Warren Mfg. Co.

Nu-Air—see Meier Electric & Machine Co.

OK—see Marathon Electric Mfg. Co.

Paasche Air Brush Co., 1923 Diversey Pkwy., Chicago, Ill.

Paul & Beekman Mfg. Co., 1734 N. Fifth St., Philadelphia, Pa.

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Perkins & Son, B. F., Chicopee St., Holyoke, Mass.

Piqua Electric Mfg. Co., 118 South St., Piqua, Ohio "Aercvent"

Polar Cub—see Gilbert Co.

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Robinson Ventilating Co., Zelienople, Pa.

Rotarex—see Johnson Washer Co.

Safety Car Heating & Lighting Co., 75 West St., New York, N. Y.

Scruplex—see Wing Mfg. Co.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.
Cataloged on page 125

United Electrical Mfg. Co., Logan St., Adrian, Mich. "Eskimo"

Universal—see Landers, Frary & Clarke

Ventura—see American Blower Corp.

Victor—see Cincinnati Victor Co.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Warner—see Wigginton Co.

Warren Mfg. Co., C., Natick, Mass. "Nedco"

Western Electric Co., 195 Broadway, New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

West Wind Corp., Ninth Ave., S. & Grant St., Seattle, Wash.

Wigginton Co., 434 N. Church St., Kalamazoo, Mich. "Warner"

Wing Mfg. Co., L. J., 154 W. 14th St., New York, N. Y. "Scruplex"

FANS, Furnace—
see **Fans,** Electric Propeller

FANS, Multiblade—
see **Blowers and Fans,** Centrifugal

FANS, Oscillating—
see **Fans,** Desk and Bracket

FANS, Ventilating—
see **Blowers and Fans,** Centrifugal
also **Fans,** Electric Propeller
also **Fans,** Window Ventilating

FANS, Window Ventilating
Fans in Adjustable Frames or on Swinging Brackets for Mounting in Window Frames; for Propellor Fans—see Fans, Electric Propellor

Airmaster Corp., 140 S. Dearborn St., Chicago, Ill.

Autovent Fan & Blower Co., 1814 N. Kostner Ave., Chicago, Ill.
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Breezo—see Buffalo Forge Co.

Buffalo Forge Co., 507 Broadway, Buffalo, N. Y. "Breezo"
Cataloged on page 123

Cincinnati Victor Co., 712 Reading Rd., Cincinnati, Ohio. "Victor"

De Bothezat Impeller Co., 1922 Park Ave., New York, N. Y. "Little Imp"

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J. "Wind-O-Vent"

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Eskimo—see United Electrical Mfg. Co.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Freshaire—see Paul & Beekman Mfg. Co.

General Electric Co., Bridgeport, Conn.

Gilbert & Co., Walter B., Sixth Ave. & Yale St., York, Pa.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Hartzell Propeller Co., Piqua, Ohio

Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill. "Ilgair"

Ilgair—see Ilg Electric Ventilating Co.

Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal.

Little Imp—see De Bothezat Impeller Co.

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

OK—see Marathon Electric Mfg. Co.

Paul & Beekman Mfg. Co., 1734 N. Fifth St., Philadelphia, Pa. "Freshaire"

Polar Cub—see Gilbert Co., A. C.

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Star-Rite—see Fitzgerald Mfg. Co.

United Electrical Mfg. Co., Logan St., Adrian, Mich. "Eskimo"

Victor—see Cincinnati Victor Co.

Wind-O-Vent—see Diehl Mfg. Co.

FARM LIGHTING PLANTS—
see **Plants,** Farm Light and Power

FAUCET TYPE HEATERS—
see **Heaters,** Faucet Type

FAULT FINDERS—
see **Detectors,** Voltage

FEED THROUGH SWITCHES—
see **Switches,** Cord

FEEDER CABLE—
see **Wire,** Lead Sheathed

FEELER GAGES—
see **Tools,** Armature Repair

FELT, Cushioning—
see **Felt,** Cutters of

FELT, Cutters of
Pads, Washers, Wicking and Special Shapers

American Felt Co., 211 Congress St., Boston, Mass.

Booth Felt Co., 463 19th St., Brooklyn, N. Y.

Brawley Felt Co., T. R., 279 20th St., Brooklyn, N. Y.

Continental Felt Co., 890 Broadway, New York, N. Y.

Eastern Felt Co., Canal St., Winchester, Mass.

Felters Co., 99 Bedford St., Boston, Mass.

House & Sons, Chas. W., 7 E. 42d St., New York, N. Y.

Monarch Felt Works, 254 36th St., Brooklyn, N. Y.

Western Felt Works, 4133 Ogden Ave., Chicago, Ill.

FERRULES, Flexible Metallic Conduit
Metal Ferrules for use in Place of Bushings on Flexible Metallic Conduit

American Circular Loom Co., 90 West St., New York, N. Y.

Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill. "Spiralbush"

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Raco—see Roach-Appleton Mfg. Co.

Rattan Mfg. Co., 552 State St., New Haven, Conn.

Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"

Spiralbush—see Austin Co.

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.
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FIBRE BOXES—
see **Boxes,** Corrugated Fibre

FIBRE CONDUIT—
see **Conduit,** Fibre

FIBRE FRICTIONS—
see **Pulleys,** Paper

FIBRE GEARS and PINIONS—
see **Gears and Pinions,** Fibre and Fabric

FIBRE, Hard—
see **Fibre,** Vulcanized

FIBRE, Laminated Phenolic—
see **Insulation,** Synthetic

FIBRE, Phenolic—
see **Insulation,** Synthetic

FIBRE PULLEYS—
see **Pulleys,** Paper

FIBRE PUNCHINGS—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIBRE, Rod—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIBRE, Sheet—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIBRE SOCKET LININGS—
see **Linings,** Socket

FIBRE STAMPINGS—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIBRE TUBES—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIBRE, Vulcanized
Fibre, Sheet, Rod or Tube; for Laminated Phenolic Fibre, Sheets, Rods or Tubes—see Insulation, Synthetic; for Fibre Gears—see Gears and Pinions, Fibre and Fabric

Brandywine Fibre Products Co., 14th & Walnut Sts., Wilmington, Del.

Continental-Diamond Fibre Co., Newark, Del. "Diamond"
Cataloged on page **156**

D. H.—see Fibre Co. of Delaware

Diamond—see Continental-Diamond Fibre Co.

Egyptian—see Fibre Co. of Delaware

Fibre Co. of Delaware, (Marshallton) Wilmington, Del. "D. H." "Egyptian"

Franklin Fibre Specialty Co., 12th & French Sts., Wilmington, Del.

General Electric Co., Bridgeport, Conn.

Lincoln Fibre & Specialty Co., Newport, Del.

National Vulcanized Fibre Co., Wilmington, Del. "Vul-Cot"
Cataloged on page **158**

Rogers Fibre Co., 121 Beach St., Boston, Mass.

Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.

Vul-Cot—see National Vulcanized Fibre Co.

Wilmington Fibre Specialty Co., Wilmington, Del

FIBRE WASHERS—
see **Fibre,** Vulcanized
also **Insulation,** Synthetic

FIELD DISCHARGE SWITCHES—
see **Switches,** Field Discharge Circuit Breaker Type

FIELD RESISTANCE UNITS—
see **Resistors,** Unit

FIELD RHEOSTATS—
see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

FILAMENTS, Incandescent Lamp
For use in Incandescent Lamps; for Bulbs—see Bulbs, Incandescent Lamp; for Bases—see Bases, Incandescent Lamp

Filament Supply Co., 1319 Willow Ave., Hoboken, N. J.

FILES, Commutator Slotting
Hand Tools for use in Undercutting Mica in Commutators; for Motor Driven Slotters—see Slotters, Commutator

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

FILTER COILS—
see **Coils,** Radio Choke

FILTER CONDENSERS—
see **Condensers,** Paper

FILTERS, Color—
see **Discs,** Color

FILTERS, Radio Interference
Filters for Connecting Directly to the Motor to reduce Radio Interference

Deuschmann Corp., Tobe, Canton, Mass. "Tobe"

Flechtheim & Co., A. M., 136 Liberty St., New York, N. Y.

National Electric Condenser Co., 1255 Dixwell Ave., New Haven, Conn.

Thermatrol Mfg. Co., 52 Willow St., Springfield, Mass.

Tobe—see Deutschmann Corp.

FINISHING COMPOUNDS, Wire—
see **Compounds,** Wire Finishing

FIRE ALARM BOXES—
see **Boxes,** Fire Alarm

FIRE ALARM RELAYS—
see **Relays,** Signal

FIRE ALARMS—
see **Boxes,** Fire Alarm

FIRE POTS—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

FIRELESS COOKERS—
see **Cookers,** Electric Fireless

FIREPLACES, Electric
Heating and Non-Heating Ornamental Fireplaces; for Fireplace Heaters—see Heaters, Stationary Radiant

Adams Bros. Mfg. Co., 1500 Fayette St., Pittsburgh, Pa.

Aetna—see Banner Electric Co.

Banner Electric Co., 119 17th St., Buffalo, N. Y. "Aetna"

Colonial Fireplace Co., 4617 Roosevelt Rd., Chicago, Ill. "Glo Hot"

Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.

Electric Fireplace Mfg. Co., 400 N. Union St., Chicago, Ill.

Electrocoal Grate Co., 628 Commerce St., Philadelphia, Pa.

Glo Hot—see Colonial Fireplace Co.

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

Glolog—see Strait & Richards

Heetaires—see Markel Electric Products

Hersh Electric Specialty Co., 3320 Fond du Lac Ave., Milwaukee, Wis.

Hot Glow Electric Mfg. Co., 1511 Niagara St., Buffalo, N. Y.

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Markel Electric Products, Inc., 145 Seneca St., Buffalo, N. Y. "Heetaires"

Steinmetz Heating Co., 30 Church St., New York, N. Y.

Strait & Richards, Fabyan Pl., Newark, N. J. "Glolog"

Universal Electric Log Co., 531 S. Peoria St., Chicago, Ill.

Weir Electric Appliance Co., 26th & Adeline Sts., Oakland, Cal.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FISH PAPER—
see **Paper,** Fish and Rope

FISH SPINE BEADS—
see **Beads,** Insulating

FISH TAPE—
see **Wire,** Fish

FISH TAPE PULLERS—
see **Pullers,** Fish Tape

FISH WIRE—
see **Wire,** Fish

FISH WIRE PULLERS—
see **Pullers,** Fish Tape

FITTINGS, Armored Cable—
see **Fittings,** Flexible Metallic Conduit

FITTINGS, Conduit—
see **Fittings,** Flexible Metallic Conduit
also **Fittings,** Threaded Conduit
also **Fittings,** Threadless Conduit

FITTINGS, Fixture
Connectors, Fixtures, Nozzles, Nipples and Bushings; for Stamped Fixture Parts—see Canopies, Fixture—see also Screw Machine Products, Automatic

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.

Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.
Cataloged on page **52**

White Mfg. Co., J. H., 111 W. Third St., Brooklyn, N. Y.

FITTINGS, Flexible Metallic Conduit

Fittings for use in Connecting Flexible Metallic Conduit or Armored Cable

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio

Adapti Co., 2996 E. 72d St., Cleveland, Ohio

American Circular Loom Co., 90 West St., New York, N. Y. "Loomflex"

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Gem Powerlets"

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill. "Spiralbush"

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

BX-O-LETS—see Johnson Electric Mfg. Co.

C. S. T.—see Chicago Steel Tank Co.

Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."

Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"

Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"

Gee Vee—see Gillette-Vibber Co.

Gem Powerlets—see Appleton Electric Co.

General Electric Co., Bridgeport, Conn.
Cataloged on page 65

Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Gee Vee"

Jiffy—see Koch & Co.

Johnson Electric Mfg. Co., 14 Lyndon St., Warren, R. I. "BX-O-LETS"

Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"

Kwikon—see Fralick & Co.

Loomflex—see American Circular Loom Co.

M. S. W. Mfg. Co., 1529 Niagara St., Buffalo, N. Y.

Mefco—see Flaherty Co.

Midwest Electric Co., 1639 Walnut St., Chicago, Ill.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Pratt Chuck Co., Main St., Frankfort, N. Y.

Raco—see Roach-Appleton Mfg. Co.

Ralco Mfg. Co., 141 N. Albany Ave., Chicago, Ill.

Rattan Mfg. Co., 552 State St., New Haven, Conn. "Slip-In"

Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"

Slip-In—see Rattan Mfg. Co.

Spiralbush—see Austin Co.

Squeeze—see Thomas & Betts Co.

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

T & B—see Thomas & Betts Co.

Thomas & Betts Co., 15 Park Pl., New York, N. Y. "Squeeze" "T & B"

FITTINGS, Metal Molding—

see **Molding and Fittings,** Metal

FITTINGS, Pipe Structure

Covering only Companies Cataloging this Product

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 99

FITTINGS, Pull Chain

Insulating Links, Splicing Links, Balls, etc.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Bead Chain Mfg. Co., 1930 Mountain Grove St., Bridgeport, Conn.
Cataloged on page 143

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 57

Durbrow & Hearne Mfg. Co., 12 Wooster St., New York, N. Y.

Eade, John E., 4 Parkman St., Providence, R. I.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Waterbury Brass Goods Corp., 26 Crane St., Waterbury, Conn.

Weber Electric Co.—see Sears, Henry D.

Wittenberg Mfg. Co., 66 Shipman St., Newark, N. J.

FITTINGS, Threaded Conduit

Bodies and Parts for use with Rigid Metallic Conduit; for Threadless Fittings—see Fittings, Threadless Conduit

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio

Adapti Co., 2996 E. 72d St., Cleveland, Ohio

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Gem Powerlets" "Unilets"

Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y. "Arrowlet"

Arrowlet—see Arrow Flexible Conduit Co.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

Bendhick—see Fairmount Electric & Mfg. Co.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

C. & P. Electric Works, Shaws Lane, Springfield, Mass. "Caplets"

Caplets—see C. & P. Electric Works

Condulet—see Crouse-Hinds Co.

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y. "Condulet"

Electrolet—see Killark Electric Mfg. Co.

Enameled Metals Co., 61 Bridge St., Pittsburgh, Pa.

End-O-Let Co., 2027 Ferdinand Ave., Detroit, Mich.

Fairmount Electric & Mfg. Co., 59th & Woodland Ave., Philadelphia, Pa. "Bendhick"

Gee Vee—see Gillette-Vibber Co.

Gem Powerlets—see Appleton Electric Co.

General Electric Co., Bridgeport, Conn.
Cataloged on page 65

Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Gee Vee"

Gwilliam Mfg. Corp., 917 N. Front St., Philadelphia, Pa.

Johnson Electric Mfg. Co., 14 Lyndon St., Warren, R. I.

Killark Electric Mfg. Co., 3940 Easton Ave., St. Louis, Mo. "Electrolet"

Mid-West Metal Products Co., Second & Pierce Sts., Muncie, Ind. "Ready"

Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill. "Powerlets"

O. Z. Cable Support Co., 45 Bergen St., Brooklyn, N. Y.

Powerlets—see Multi Electrical Mfg. Co.

Pratt Chuck Co., Main St., Frankfort, N. Y.

R. & S.—see Russell & Stoll Co.

Rattan Mfg. Co., 552 State St., New Haven, Conn.

Ready—see Mid-West Metal Products Co.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

Steelduct Co., Youngstown, Ohio

Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.
Cataloged on page 52

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

Unilets—see Appleton Electric Co.

Utility Fittings Co., 1932 E. Westmoreland St., Philadelphia, Pa.

V. V. Fittings Co., 715 Cherry St., Philadelphia, Pa.

FITTINGS, Threadless Conduit

Bodies and Parts for use with Rigid Metallic Conduit; for Threaded Fittings—see Fittings, Threaded Conduit

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Gem Powerlets"

Condulet—see Crouse-Hinds Co.

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y. "Condulet"

Electrolet—see Killark Electric Mfg. Co.

Erie Malleable Iron Co., 12th & Cherry Sts., Erie, Pa. "Kondu-Box"

Killark Electric Mfg. Co., 3940 Easton Ave., St. Louis, Mo. "Electrolet"

Kondu-Box—see Erie Malleable Iron Co.

Sampson Axcess System, Inc., 282 Broad St., Lynn, Mass.

Steel & Tubes, Inc., 224 E. 131st St., Cleveland, Ohio

FITTINGS, Wood Molding

Porcelain or Composition Fittings for use in Making Connections or Taps in Wood Molding Installations

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"

Jordan Brothers, 74 Beekman St., New York, N. Y. "Tapon"

Paiste—see Arrow-Hart & Hegeman Electric Co.

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Tapon—see Jordan Brothers.

FIXED CONDENSERS—

see **Condensers,** Paper

FIXTURE CANOPIES—

see **Canopies,** Fixture

FIXTURE CHAIN—

see **Chain,** Fixture

FIXTURE GUARDS—

see **Guards,** Fixture

FIXTURE HANGERS—

see **Studs,** Fixture

FIXTURE HICKEYS—

see **Hickeys,** Fixture Hanging

FIXTURE ROSETTES—

see **Rosettes**

FIXTURE STUDS—

see **Studs,** Fixture

FIXTURE SUPPORTING RECEPTACLES—

see **Receptacles,** Fixture Supporting

FIXTURE SWITCHES—

see **Switches,** Fixture

FIXTURE WALL PLATES—

see **Canopies,** Fixture

FIXTURE WIRE—

see **Wire,** Asbestos Covered
also **Wire,** Rubber Covered and Braided

FIXTURES, Adjustable—

see **Lamps,** Industrial Bench or Machine

FIXTURES, Airport Lighting

Covering only Companies Cataloging this Product

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

FIXTURES, Industrial Bench—

see **Lamps,** Industrial Bench or Machine

FIXTURES, Industrial Indoor

Direct and Indirect Ceiling Drops and Wall Brackets for Indoor use in Factories; for Flexible Adjustable Lamps—see Lamps, Industrial Bench or Machine

Acme Lighting Fixture Co., 107 W. 13th St., New York, N. Y.

Amco—see Art Metal Co.

Art Metal Co., 1800 E. 38th St., Cleveland, Ohio. "Amco"

Artcraft Metal Stamping Corp., 32 Locust St., Brooklyn, N. Y.

Bander Lighting Fixture Co., 1476 Broadway, New York, N. Y.

Beardslee Chandelier Mfg. Co., 220 S. Jefferson St., Chicago, Ill.

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on pages **106-107**

Commercial Lighting Corp., 724 Seventh Ave., Beaver Falls, Pa.

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "Winall" "X-Ray"

Dunlap Co., John, Carnegie, Pa.

Durex—see Wheeler Reflector Co.

Elkay Reflector Corp., 100 Grand Ave., Brooklyn, N. Y.

Full-O-Lite Co., 296 Broadway, New York, N. Y.

Gill Glass & Fixture Co., Amber & Venango Sts., Philadelphia, Pa.

Goodrich Electric Co., 2935 N. Oakley Ave., Chicago, Ill.

Guth Co., Edwin F., 2615 Washington Ave., St. Louis, Mo.

Hanger Electric Mfg. Co., 105 S. Dearborn St., Chicago, Ill.

Herwig Co., 1752 Sedgwick St., Chicago, Ill.

Ivanhoe Division of Miller Co., 5716 Euclid Ave., Cleveland, Ohio.

Kayline Co., 600 Huron Rd., Cleveland, Ohio

Millen, Manley & Wanbaugh, 349 W. 26th St., New York, N. Y.

Moe-Bridges Co., 242 Broadway, Milwaukee, Wis.

Moe Brothers Mfg. Co., 121 E. Clybourn St., Milwaukee, Wis.

Pemco—see Philadelphia Electrical Mfg. Co.

Perfeclite Co., 1427 E. 40th St., Cleveland, Ohio

Philadelphia Electrical Mfg. Co., 1228 N. 31st St., Philadelphia, Pa. "Pemco"

Plaut & Co., L., 434 E. 23d St., New York, N. Y.

Quad—see Quadrangle Mfg. Co.

Quadrangle Mfg. Co., 32 S. Peoria St., Chicago, Ill. "Quad"

Red Spot—see Wakefield Brass Co.

Sollite—see Westinghouse Electric & Mfg. Co.

Vapolux—see Wheeler Reflector Co.

Wakefield Brass Co., F. W., Vermilion, Ohio "Red Spot"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Sollite"
Cataloged on page **100**

Wheeler Reflector Co., 275 Congress St., Boston, Mass. "Durex" "Vapolux"

Winall—see Curtis Lighting

X-Cel-All Co., Monaca, Pa.

X-Ray—see Curtis Lighting

FIXTURES, Industrial Machine—

see **Lamps,** Industrial Bench or Machine

FIXTURES, Public Building Desk

Fixtures for Permanent Mountings on Bank Desks, Railings, etc.; for Desk Lamps—see Lamps, Residential Table or Desk

Beardslee Chandelier Mfg. Co., 220 S. Jefferson St., Chicago, Ill.

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "X-Ray"

Day-Brite Reflector Co., 3825 Laclede Ave., St. Louis, Mo.

Guth Co., Edwin F., 2615 Washington Ave., St. Louis, Mo.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page **119**

Oamco—see Overbagh & Ayres Mfg. Co.

Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"

X-Ray—see Curtis Lighting

FIXTURES, Public Building Floor Standard

For Public Building Wall Brackets and Ceiling Drops—see Fixtures, Public Building Indoor—see also Posts, Metal Street Lamp

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill.

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

Herwig Co., 1752 Sedgwick St., Chicago, Ill.
Cataloged on page **118**

Murlin Mfg. Co., 54th & Paschall Ave., Philadelphia, Pa.

Smyser-Royer Co., York, Pa.

Union Metal Mfg. Co., 1432 Maple Ave., N. E., Canton, Ohio

FIXTURES, Public Building Indoor

Direct and Indirect Ceiling Drops and Wall Brackets; for Industrial Lighting Fixtures—see Fixtures, Industrial Indoor; for Public Building Desk Fixtures—see Fixtures, Public Building Desk

Acme Lighting Products, 2114 Woodland Ave., Cleveland, Ohio

Brascolite—see Guth Co.

Full-O-Lite Co., 296 Broadway, New York, N. Y.

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

Guth Co., Edwin F., 2615 Washington Ave., St. Louis, Mo. "Brascolite"

Herwig Co., 1752 Sedgwick St., Chicago, Ill.
Cataloged on page **118**

Ironcraft, Inc., 38 Park St., Brooklyn, N. Y.

Jackson Electrical Co., 900 W. Van Buren St., Chicago, Ill.

Kayline Co., 600 Huron Rd., Cleveland, Ohio

Miller Co., 101 Center St., Meriden, Conn.

Mitchell Vance Co., 70 Washington St., Brooklyn, N. Y.

Perfeclite Co., 1427 E. 40th St., Cleveland, Ohio

Planetlite Co., 342 Madison Ave., New York, N. Y.

Plaut & Co., L., 434 E. 23d St., New York, N. Y.

Red Spot—see Wakefield Brass Co.

Sollaire—see Westinghouse Electric & Mfg. Co.

Wakefield Brass Co., F. W., Vermilion, Ohio "Red Spot"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Sollaire"

FIXTURES, Public Building Outdoor

Covering only Companies Cataloging this Product

Herwig Co., 1752 Sedgwick St., Chicago, Ill.
Cataloged on page **118**

FIXTURES, Residential Indoor

Direct and Indirect Ceiling Drops and Wall Brackets for Indoor use; for Wall Brackets and Porch Lights—see Fixtures, Residential Outdoor

Acme Lighting Products, 2114 Woodland Ave., Cleveland, Ohio.

Aglites—see Guth Co.

Alabax—see Pass & Seymour

Artcraft Metal Stamping Corp., 32 Locust St., Brooklyn, N. Y.

Beardslee Chandelier Mfg. Co., 220 S. Jefferson St., Chicago, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Efcolite Corp., Trenton, N. J.

Erie Fixture Supply Co., Erie, Pa.

Framburg & Co., H. A., 3328 Carroll Ave., Chicago, Ill.

Franklin Mfg. Co., 5209 Prospect Ave., Cleveland, Ohio

Friedley-Voshardt Co., 737 S. Halsted St., Chicago, Ill.

Full-O-Lite Co., 296 Broadway, New York, N. Y.

Globe Lighting Fixture Mfg. Co., 25 Lafayette St., Brooklyn, N. Y.

Goodrich Electric Co., 2935 N. Oakley Ave., Chicago, Ill.

Guth Co., Edwin F., 2615 Washington Ave., St. Louis, Mo. "Aglites"

Herwig Co., 1752 Sedgwick St., Chicago, Ill.
Cataloged on page **118**

Ironcraft, Inc., 38 Park St., Brooklyn, N. Y.

Ivin Lighting Fixture Co., 159 Leonard St., New York, N. Y.

Kayline Co., 600 Huron Rd., Cleveland Ohio

Kaylite Mfg. Corp., 138 Mott St., New York, N. Y.

Metropolitan-Columbia Mfg. Co., 722 Metropolitan Ave., Brooklyn, N. Y.

Michigan Chandelier Co., 3130 Chene St., Detroit, Mich.

Miller Co., 101 Center St., Meriden, Conn.

Mitchell Vance Co., 70 Washington St., Brooklyn, N. Y.

Moe Brothers Mfg. Co., 121 E. Clybourn St., Milwaukee, Wis.

Novelty Lighting Corp., 2483 E. 22d St., Cleveland, Ohio

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "Alabax"

Porcelier Mfg. Co., East Liverpool, Ohio

Riddle Co., Edward N., 27 Broadway, Toledo, Ohio. "Toledo"

Sears, Henry D., 80 Boylston St., Boston, Mass., (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Shapiro & Aronson, 20 Warren St., New York, N. Y.

Sollaire—see Westinghouse Electric & Mfg. Co.

Sollux—see Westinghouse Electric & Mfg. Co.

Toledo—see Riddle Co.

Weber Electric Co.—see Sears, Henry D.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Sollaire" "Sollux"
Cataloged on page **100**

Wilhite Machine Works, 1245 S. Hope St., Los Angeles, Cal.

FIXTURES, Residential Outdoor

Wall Brackets, Porch Lights, etc., for Out-Door use; for Residential Indoor use—see Fixtures, Residential Indoor

Framburg & Co., H. A., 3328 Carroll Ave., Chicago, Ill.

Friedley-Voshardt Co., 737 S. Halsted St., Chicago, Ill.

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

Gruber Bros., 392 Broadway, New York, N. Y.

Herwig Co., 1752 Sedgwick St., Chicago, Ill.
Cataloged on page **118**

Murlin Mfg. Co., 54th & Paschall Ave., Philadelphia, Pa.

FIXTURES, Show Window Lighting

Fixtures, Lamps and Appliances designed for Show Window Lighting

Bohling, Frederick A., 503 W. 43d St., New York, N. Y.

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "X-Ray"

Day-Brite Reflector Co., 3825 Laclede Ave., St. Louis, Mo.

Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.

Elkay Reflector Corp., 100 Grand Ave., Brooklyn, N. Y.

Erikson Electric Co., L., 6 Power House St., Boston, Mass.

Frink Corp., 369 Lexington Ave., New York, N. Y.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page 119

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Permaflector—see Pittsburgh Reflector Co.

Pittsburgh Reflector Co., 304 Ross St., Pittsburgh, Pa. "Permaflector"
Cataloged on page 113

Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Sterling"
Cataloged on page 114

Sterling—see Reflector & Illuminating Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 100

Wheeler Reflector Co., 275 Congress St., Boston, Mass.

X-Ray—see Curtis Lighting

FIXTURES, Showcase Lighting

Fixtures, Lamps and Appliances designed for Showcase Lighting

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 109

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "Hoodette" Scoopette" "X-Ray"

Day-Brite Reflector Co., 3825 Laclede Ave., St. Louis, Mo.

Elkay Reflector Corp., 100 Grand Ave. Brooklyn, N. Y.

Hoodette—see Curtis Lighting

Kas-Lite—see Reflector & Illuminating Co.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page 119

Oamco—see Overbagh & Ayres Mfg. Co.

Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"

Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Kas-Lite"
Cataloged on page 115

Scoopette—see Curtis Lighting

Wheeler Reflector Co., 275 Congress St., Boston, Mass.

X-Ray—see Curtis Lighting

FIXTURES, Stage Lighting

Fittings, Fixtures and Appliances designed for use in Theatres

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.

BEL-SUN-LITE—see Belson Mfg. Co.

Belson Mfg. Co., 806 Sibley St., Chicago, Ill. "BEL-SUN-LITE"

Berthold Electric Co., Gus, 555 W. Monroe St., Chicago, Ill.

Bohling, Frederick A., 503 W. 43d St., New York, N. Y.

Capitol Stage Lighting Co., 626 Tenth Ave., New York, N. Y.

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "X-Ray"

Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.

Erikson Electric Co., L., 6 Power House St., Boston, Mass.

Frink Corp., 369 Lexington Ave., New York, N. Y.

Fut-Lite—see Reflector & Illuminating Co.

Holzmueller's Theatrical Appliances, 1108 Howard St., San Francisco, Cal.

Hub Electric Co., 2219 W. Grand Ave., Chicago, Ill.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page 119

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 116

Major Equipment Co., 4619 Fullerton Ave., Chicago, Ill.

Milwaukee Electric Switchboard Co., 156 Clinton St., Milwaukee, Wis.

Newton, Charles I., 244 W. 14th St., New York, N. Y.

Oamco—see Overbagh & Ayres Mfg. Co.

Olesen Illuminating Co., Otto K., 1645 Hudson Ave., Hollywood, Cal.

Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"

Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Fut-Lite" "Sterling"
Cataloged on page 115

Sterling—see Reflector & Illuminating Co.

Wheeler Reflector Co., 275 Congress St., Boston, Mass.

X-Ray—see Curtis Lighting

FIXTURES, Street Lighting Pole Bracket

Weatherproof Fixtures for Mounting on Wooden or Metal Poles

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.

Dunlap Co., John, Carnegie, Pa.

Erie—see Keystone-State Products Corp.

Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Goodrich Electric Co., 2935 N. Oakley Ave., Chicago, Ill.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for King Co., Sheffield, Ala.)

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"

Keystone-State Products Corp., Blairsville, Pa. "Erie"

King Co.—see Graybar Electric Co.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page 119

Line Material Co., South Milwaukee, Wis.

Lundin Electric & Machine Co., 10 Thatcher St., Boston, Mass.

Oamco—see Overbagh & Ayres Mfg. Co.

Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"

Peirce—see Hubbard & Co.

Pemco—see Philadelphia Electrical Mfg. Co.

Philadelphia Electrical Mfg. Co., 1228 N. 31st St., Philadelphia, Pa. "Pemco"

Truscon Steel Co., Youngstown, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

Wheeler Reflector Co., 275 Congress St., Boston, Mass.

FIXTURES, Theatre

Covering only Companies Cataloging this Product

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 116

FIXTURES, Vaporproof

Fixtures for use where Protection from Fumes or Moisture is required

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on pages 108, 110

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 59

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Goodrich Electric Co., 2935 N. Oakley Ave., Chicago, Ill.

Ivanhoe Division of Miller Co., 5716 Euclid Ave., Cleveland, Ohio

R. & S.—see Russell & Stoll Co.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.
Cataloged on page 52

V. V. Fittings Co., 715 Cherry St., Philadelphia, Pa.

Vapolux—see Wheeler Reflector Co.

Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wheeler Reflector Co., 275 Congress St., Boston, Mass. "Vapolux"

FIXTURES, Weatherproof—

see **Fixtures,** Street Lighting Pole Bracket

FLANGES—

see **Fittings,** Pipe Structure

FLASHERS, Dimmer—

see **Flashers,** Motor-Operated

FLASHERS, Magnetic

Solenoid Flashers for Small Signs of Single Lamps; for Thermal Flashers—see Flashers, Thermal

Betts, Inc., James H., 1391 Sedgwick Ave., New York, N. Y.

Betts & Betts Corp., 645 W. 43d St., New York, N. Y.

Eagle Signal Sales Corp., Moline, Ill.

Gem Engineering Corp., Hempstead, N. Y.

Hotchkiss—see Time-O-Stat Controls Co.

Phelps Electric Co., 29 S. Clinton St., Chicago, Ill. "Skedoodle"

Phoenix Products Co., Phoenix, N. Y. "Ryan"

Ryan—see Phoenix Products Co.

Skedoodle—see Phelps Electric Co.

Time-O-Stat Controls Co., Elkhart, Ind. "Hotchkiss"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FLASHERS, Motor Operated

Motor Operated Sign Flashers; for Solenoid Flashers—see Flashers, Magnetic; for Thermal Flashers—see Flashers, Thermal

Betts, Inc., James H., 1391 Sedgwick Ave., New York, N. Y.

Betts & Betts Corp., 645 W. 43d St., New York, N. Y.

Eagle Signal Sales Corp., Moline, Ill.

General Kontrolar Co., 200 E. First St., Dayton, Ohio

Grazier Electrical Products Co., 961 Ash St., (Sunnyside) Johnstown, Pa.

Hotchkiss—see Time-O-Stat Controls Co.

Reco—see Reynolds Electric Co.

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"
Cataloged on page 120

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

Time-O-Stat Controls Co., Elkhart, Ind. "Hotchkiss"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FLASHERS, Socket—
see **Flashers**, Thermal

FLASHERS, Solenoid—
see **Flashers**, Magnetic

FLASHERS, Thermal
Flashers operated by Thermostats for Controlling Small Signs or Single Lamps; for Magnetic Flashers—see Flashers, Magnetic

Betts & Betts Corp., 645 W. 43d St., New York, N. Y.
Betts, Inc., James H., 1391 Sedgwick Ave., New York, N. Y.
Comet—see Thompson Electric Co.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Gacor—see General Appliance Corp.
General Appliance Corp., 120 Eighth St., San Francisco, Cal. "Gacor"
Kala-Flasher Co., 344 N. Church St., Kalamazoo, Mich.
Phelps Electric Co., 29 S. Clinton St., Chicago, Ill.
Phoenix Products Co., Phoenix, N. Y. "Way Out"
Presto Products Co., 128 E. 23d St., New York, N. Y.
Propp Co., M., 524 Broadway, New York, N. Y.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Thompson Electric Co., Richard H., 2237 Fillmore St., San Francisco, Cal. "Comet"
Time-O-Stat Controls Co., Elkhart, Ind.
Way Out—see Phoenix Products Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FLASHLIGHT BATTERIES—
see **Batteries**, Primary Dry

FLASHLIGHT LAMPS—
see **Lamps**, Incandescent

FLASHLIGHT LENSES—
see **Lenses**, Flashlight

FLASHLIGHTS, Battery
Flashlights using a Dry Battery as a Source of Current

Allbright Electric Corp., 48 W. 21st St., New York, N. Y.
Bond Electric Corp., 257 Cornelison Ave. Jersey City, N. J.
Bright Star Battery Co., 15th St., Hoboken, N. J.
Burgess Battery Co., 111 W. Monroe St., Chicago, Ill. "Snaplite"
Eveready—see National Carbon Co.
French Battery Co., 30 N. Michigan Ave., Chicago, Ill. "Ray-O-Vac"
Hipco—see Hipwell Mfg. Co.
Hipwell Mfg. Co., 825 North Ave., N. S., Pittsburgh, Pa. "Hipco"
Kwik-Lite—see Usona Mfg. Co.
Marathon Battery Co., Wausau, Wis.
National Carbon Co., 30 E. 42d St., New York, N. Y. "Eveready"
Cataloged on pages.....131-132
Niagara Searchlight Co., Niagara Falls, N. Y.
Pioneer—see Serve-U Electrical Products Co.
Ray-O-Vac—see French Battery Co.
Serve-U Electrical Products Co., New Hyde Park, N. Y. "Pioneer"
Snaplite—see Burgess Battery Co.
Underwood Battery Co., 1250 Ontario St., Cleveland, Ohio
United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"
Usalite—see United States Electric Mfg. Corp.

FLASHOVER RELAYS—
see **Relays**, Current Control

FLASK HEATERS—
see **Heaters**, Laboratory Flask

FLAT IRON ELEMENTS—
see **Elements**, Flat Iron

FLAT IRONS—
see **Irons**, Electric Household
also **Irons**, Electric Laundry
also **Irons**, Electric Tailor's
also **Irons**, Electric Traveler's

FLEXIBLE ARMORED CABLE—
see **Cable**, Flexible Steel Armored

FLEXIBLE ARMS—
see **Arms**, Flexible

FLEXIBLE CONDUIT—
see **Conduit**, Flexible Metallic
also **Conduit**, Flexible Non-Metallic

FLEXIBLE CONTROL CABLE—
see **Cable**, Flexible Control

FLEXIBLE COUPLINGS—
see **Couplings**, Flexible Shaft

FLEXIBLE SHAFTS—
see **Shafts**, Flexible

FLOAT SWITCHES—
see **Switches**, Float Operated

FLOODLIGHTS—
see **Projectors**, Flood Lighting

FLOOR BOXES—
see **Boxes**, Adjustable Floor
also **Boxes**, Floor Receptacle

FLOOR LAMPS—
see **Lamps**, Residential Floor or Bridg

FLOOR POLISHERS—
see **Machines**, Floor Finishing

FLOOR PUSH BUTTONS—
see **Buttons**, Floor and Attachment Push

FLOOR RECEPTACLES—
see **Boxes**, Adjustable Floor
also **Boxes**, Floor Receptacle

FLOOR SCRUBBERS—
see **Machines**, Floor Finishing

FLOOR STANDARDS—
see **Fixtures**, Public Building Floor Standard

FLOOR SURFACERS—
see **Machines**, Floor Finishing

FLUID MIXERS—
see **Mixers**, Portable Commercial

FLUID, Soldering—
see **Flux**, Soldering

FLUSH PLATES—
see **Plates**, Flush Switch and Outlet

FLUSH PUSH BUTTONS—
see **Buttons**, Flush Push

FLUSH RECEPTACLES—
see **Receptacles**, Flush

FLUSH SWITCHES—
see **Switches**, Flush Push

FLUX METERS—
see **Permeameters**

FLUX, Soldering
Paste, Fluids, etc., for use in Soldering; for Self Fluxing Solder—see Solder

Allen Co., L. B., 6749 Bryn Mawr Ave., Chicago, Ill.
Amco—see American Solder & Flux Co.
American Chemical Paint Co., Ambler, Pa. "Flosol"
American Solder & Flux Co., 2910 N. 16th St., Philadelphia, Pa. "Amco"
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Benson Co., Alex. R., S. Bay Rd., Hudson, N. Y. "Yagers"
Burnley Battery & Mfg. Co., Clay St., North East, Pa.
Champion—see Snarr & Co.
Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.
Dunton Co., M. W., 670 Eddy St., Providence, R. I. "Nokorode"
Dutch Brand—see Van Cleef Bros.
Eureka—see Grasselli Chemical Co.
Firth, John, 25 Beaver St., New York, N. Y. "Perfecto"
Flosol—see American Chemical Paint Co.
Fluxite—see Monarch Products Co.
Gazzolo Drug & Chemical Co., 119 S. Green St., Chicago, Ill. "Noharm"
General Electric Co., Bridgeport, Conn.
Grasselli Chemical Co., 629 Euclid Ave., Cleveland, Ohio "Eureka"
Highland Electro-Chemical Mfg. Co., Connellsville, Pa.
Johnson Mfg. Co., 729 Washington Blvd., Chicago, Ill.
Lukens Metal Co., Thomas F., 1105 Fairmount Ave., Philadelphia, Pa.
McGill Mfg. Co., Valparaiso, Ind.
Mica Insulator Co., 200 Varick St., New York, N. Y.
Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.
Monarch Products Co., 135 Monmouth St., Red Bank, N. J. "Fluxite"
Noharm—see Gazzolo Drug & Chemical Co.
Nokorode—see Dunton Co.
Oakwood—see Weaver Specialty Co.
Paragon Insulating Co., 5716 Euclid Ave., Cleveland, Ohio
Perfecto—see Firth, John
Pfanstiehl Chemical Co., Waukegan, Ill. "Speco"
Reade Mfg. Co., 135 Hoboken Ave., Jersey City, N. J. "Readeana"
Readeana—see Reade Mfg. Co.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Ruby Chemical Co., 68 McDowell St., Columbus, Ohio "Rubyfluid"
Rubyfluid—see Ruby Chemical Co.
Snarr & Co., Geo. W., 110 S. Ninth St., St. Louis, Mo. "Champion"
Speco—see Pfanstiehl Chemical Co.
Van Cleef Bros., Woodlawn Ave. & 77th St., Chicago, Ill. "Dutch Brand"
Weaver Specialty Co., 6344 Aurelia St., Pittsburgh, Pa. "Oakwood"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Yagers—see Benson Co.,

FOIL, Condenser
Copper, Tin, Aluminum or Alloy Foil; for Condenser Tissue—see Tissue, Condenser

Aluminum Co. of America, Oliver Bldg., Pittsburgh Pa.

FOIL, Condenser (Continued)
Grauert, R. W., 66 W. Broadway, New York, N. Y.
Johnston Tin Foil & Metal Co., 6106 S. Broadway, St. Louis, Mo.
Lehmaier, Schwartz & Co., 215 E. 22d St., New York, N. Y.
United States Foil Co., 30th & Grand Sts., Louisville, Ky.

FOOD MIXERS—
see **Machines,** Kitchen Appliance Operating
also **Mixers and Whippers,** Commercial
also **Mixers and Whippers,** Household

FOOT CANDLE METERS—
see **Photometers**

FOOT REST CONTACTS—
see **Alarms,** Manual Burglar

FOOT WARMERS—
see **Warmers,** Electric Foot

FOOTLIGHTS—
see **Fixtures,** Stage Lighting

FORCED DRAFT FANS—
see **Blowers and Fans,** Centrifugal

FORGINGS, Drop
Contract Companies having Facilities for Producing Drop Forgings
Alemite Die Casting & Mfg. Co., Woodstock, Ill.
American Forge & Machine Co., 1650 Barth St., S.W., Canton, Ohio
Benton Harbor Malleable Industries, Benton Harbor, Mich.
Brewer-Titchener Corp., Cortland, N. Y.
Clapp Mfg. Co., E. D., 305 Genesee St., Auburn, N. Y.
Cleveland City Forge & Iron Co., E. 45th St. & Lakeside Ave., Cleveland, Ohio
Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio
Drop Forging Co. of N. Y., West Side Ave. & Fisk St., Jersey City, N. J.
Federal Drop Forge Co., Lansing, Mich
General Drop Forge Co., 1738 Elmwood Ave., Buffalo, N. Y.
Herbrand Co., 109 E. State St., Fremont Ohio
Lansing Drop Forge Co., S. Logan, Albert & Birch Sts., Lansing, Mich.
Newport News Shipbuilding & Dry Dock Co., 233 Broadway, New York, N. Y.
Richmond Forging Corp., North Blvd., Richmond, Va.
Storms Drop Forging Co., Page Blvd., Springfield, Mass.
Williams & Co., J. H., 400 Vulcan St., Buffalo, N. Y.

FORMS, Wire
Covering only Companies Cataloging this Product
Hunter Pressed Steel Co., Lansdale, Pa
Cataloged on page 164
Newcomb Spring Corp., Bush Terminal, Brooklyn, N. Y.
Cataloged on page 165

FOUNTAINS, Electric
Electrically Operated and Illuminated Ornamental Fountains
Display Fountain Mfg. Co., 167 E. 33d St., New York, N. Y.
Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.
Edelman Co., Samuel, 474 N. Sixth St., Philadelphia, Pa.
Jewel Electric & Mfg. Co., 4505 Ravenswood Ave., Chicago, Ill.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Louisville Composition Products Co., 976 Swan St., Louisville, Ky.

FRACTIONAL HORSEPOWER MOTORS—
see **Motors,** Fractional Horsepower

FRAMES, Directory—
see **Holders,** Card

FREEZERS, Electric Household Ice Cream
Motor Driven Ice Cream Freezers
Alaska Freezer Co., Winchendon, Mass.
Champion Line Machinery, Inc., 136 W. 31st St., New York, N. Y.
Kitchen Aid Mfg. Co., Troy, Ohio "Troy"
Taylor Bros. Churn & Mfg. Co., 4462 Finney Ave., St. Louis, Mo.
Troy—see Kitchen Aid Mfg. Co.

FREEZERS, Ice Cream—
see **Freezers,** Electric Household Ice Cream
also **Machines,** Kitchen Appliance Operating

FREQUENCY METERS—
see **Meters,** Frequency

FREQUENCY RECORDERS—
see **Meters,** Frequency

FREQUENCY RELAYS—
see **Relays,** Current Control

FRICTION TAPE—
see **Tape,** Friction

FRICTIONS, Fibre—
see **Pulleys,** Paper

FROSTING, Lamp—
see **Coloring and Frosting,** Lamp

FRUIT JUICE EXTRACTORS—
see **Extractors,** Fruit Juice

FUEL-ELECTRIC RANGES—
see **Ranges,** Combination Fuel and Electric

FULLERBOARD—
see **Paper,** Fullerboard and Pressboard

FURNACE MUFFLES—
see **Cores,** Refractory

FURNACE REGULATORS—
see **Regulators,** Furnace Temperature

FURNACES, Arc—
see **Furnaces,** Electric Arc

FURNACES, Electric Arc
For Induction Furnaces—see Furnaces, Electric Induction; for Resistance Furnaces—see Furnaces, Electric Resistance
Detroit Electric Furnace Co., 825 W. Elizabeth St., Detroit, Mich.
Greene Electric Furnace Co., 1918 First Ave., S., Seattle, Wash.
Lectromelt—see Pittsburgh Electric Furnace Corp.
Pittsburgh Electric Furnace Corp., 32d St. & Allegheny River, Pittsburgh, Pa. "Lectromelt"

FURNACES, Electric Induction
For Induction Furnaces—see Furnaces, Electric Arc; for Resistance Furnaces—see Furnaces, Electric Resistance
Ajax Electrothermic Corp., Ajax Park, Trenton, N. J.

FURNACES, Electric Resistance
For Induction Furnaces—see Furnaces, Electric Induction; for Arc Furnaces—see Furnaces, Electric Arc
American Electric Furnace Co., 27 Von Hillern St., Boston, Mass.
Bellevue Industrial Furnace Co., 2971 Bellevue Ave., Detroit, Mich.
Electric Furnace Co., 540 Wilson Ave., Salem, Ohio
General Electric Co., 1 River Rd., Schenectady, N. Y.
General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.
Hagan Co., George J., Chamber of Commerce Bldg., Pittsburgh, Pa.
Hayes, C. I., 129 Baker St., Providence, R. I.
Hevi Duty Electric Co., 217 Michigan St., Milwaukee, Wis.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Nabob Electric Co., 274 Madison Ave., New York, N. Y.
Sentinel—see Sentry Co.
Sentry Co., Taunton, Mass. "Sentinel"
Steinmetz Heating Co., 30 Church St., New York, N. Y.
Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FURNACES, Gasoline—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

FURNACES, Induction—
see **Furnaces,** Electric Induction

FURNACES, Kerosene—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

FURNACES, Resistance—
see **Furnaces,** Electric Resistance

FUSE ADAPTERS—
see **Adapters,** Fuse

FUSE CLIPS—
see **Clips,** Fuse

FUSE CUTOUTS—
see **Blocks,** Low Voltage Cartridge Fuse
also **Cutouts,** Plug Fuse

FUSE GRABBERS—
see **Tongs,** Fuse and Wire

FUSE LINKS—
see **Links,** Renewable Fuse

FUSE PLUGS, Dummy—
see **Plugs,** Dummy Fuse

FUSE PULLERS—
see **Tongs,** Fuse and Wire

FUSE STRIP—
see **Wire and Strip,** Fuse

FUSE TONGS—
see **Tongs,** Fuse and Wire

FUSE WIRE—
see **Wire and Strip,** Fuse

FUSED BLADE KNIFE SWITCHES—
see **Switches,** Fused Blade Knife

FUSELESS PLUGS—
see **Plugs,** Dummy Fuse

FUSES, Cartridge—
see **Fuses,** Non-Renewable Low Voltage Cartridge
also **Fuses,** Renewable Low Voltage Cartridge

FUSES, Dummy Plug—
see **Plugs,** Dummy Fuse

FUSES, Link—
see **Fuses,** Open Link

FUSES, Non-Renewable Low Voltage Cartridge
Enclosed Tube Type Fuses with Sealed Non-Renewable Elements

Arkless—see Economy Fuse & Mfg. Co.
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Commercial Enclosed Fuse Co., 1319 Willow Ave., Hoboken, N. J.
D. & W.—see General Electric Co.
Eco—see Economy Fuse & Mfg. Co.
Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill. "Arkless" "Eco"
Gem—see Jefferson Electric Co.
General Electric Co., Bridgeport, Conn. "D. & W." Cataloged on page 64
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem" "Union"
K-E—see Kirkman Engineering Corp.
Kantark—see Trico Fuse Mfg. Co.
Kirkman Engineering Corp., 1 Dominick St., New York, N. Y. "K-E"
Littelfuse Laboratories, 1772 Wilson Ave., Chicago, Ill.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Monarch Fuse Co., Jamestown, N. Y.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Perkins—see Bryant Electric Co.
Shawmut—see Chase-Shawmut Co.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y.
Trico Fuse Mfg. Co., 1001 McKinley Ave., Milwaukee, Wis. "Kantark"
Union—see Jefferson Electric Co.
Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FUSES, Non-Renewable Plug
Edison Screw Base Type Fuses; for Renewable Plug Fuses—see Fuses, Renewable Plug

Arrow-Hart & Hegeman Electric Co., Bridgeport, Conn.
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Pyrotite" Cataloged on page 56
Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.
Clear-Top—see Trico Fuse Mfg. Co.
Clearsite—see Economy Fuse & Mfg. Co.
Cler-Vue—see U. S. Electric Co.
Crystal—see Royal Electric Co.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill. "Clearsite"
Electric Fuseguard Co., 1002 W. Main St., Charlottesville, Va.
Gem—see Jefferson Electric Co.
General Electric Co., Bridgeport, Conn. "Pyrex" Cataloged on page 64
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem"
K-E—see Kirkman Engineering Corp.
Kirkman Engineering Corp., 1 Dominick St., New York, N. Y. "K-E"
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Monarch Fuse Co., Jamestown, N. Y.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
Pyrex—see General Electric Co.
Pyrotite—see Bryant Electric Co.
Royal Electric Co., 186 Third St., Boston, Mass. "Crystal"
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.) "Uno"
Trico Fuse Mfg. Co., 1001 McKinley Ave., Milwaukee, Wis. "Clear-Top"
U. S. Electric Co., 18 Chambers St., Trenton, N. J. "Cler-Vue"
Uno—see Sears, Henry D.
Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.
Weber Electric Co.—see Sears, Henry D.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FUSES, Open Link
Link Fuses of Fusible Metal or Strip with Copper Terminals; for Fuse Wire and Strip—see Wire and Strip, Fuse

Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"
K-E—see Kirkman Engineering Corp.
Kirkman Engineering Corp., 1 Dominick St., New York, N. Y. "K-E"
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Shawmut—see Chase-Shawmut Co.
Union—see Jefferson Electric Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FUSES, Plug—
see Fuses, Non-Renewable Plug
also Fuses, Renewable Plug

FUSES, Renewable Low Voltage Cartridge
Enclosed Tube Type Fuses with Renewable Elements

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Cooley Mfg. Co., 366 W. Broadway, New York, N. Y. "Koo-Lee"
D. & W.—see General Electric Co.
Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill.
Electric Fuseguard Co., 1002 W. Main St., Charlottesville, Va.
General Electric Co., Bridgeport, Conn. "D. & W." Cataloged on page 64
Great Western Fuse Co., 405 Lexington Ave., New York, N. Y.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"
Koo-Lee —see Cooley Mfg. Co.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Monarch Fuse Co., Jamestown, N. Y.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Pierce Renewable Fuses, Inc., 77 E. Swan St., Buffalo, N. Y.
Rochester Refill Fuse Co., 402 Cottage St., Rochester, N. Y.
Shawmut—see Chase-Shawmut Co.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y.
Star Fuse Co., 235 Canal St., New York, N. Y.
Trico Fuse Mfg. Co., 1001 McKinley Ave., Milwaukee, Wis.
Union—see Jefferson Electric Co.
Volk Mfg. Co., Bantam, Conn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

FUSES, Renewable Plug
Edison Screw Base Type Fuses; for Non-Renewable Plug Fuses—see Fuses, Non-Renewable Plug

Ad-A-Fuse—see Kansas City Fuse Co.
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Clearsite—see Economy Fuse & Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Cote Bros. Fuse Mfg. Corp., Clinton, Iowa
Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill. "Clearsite"
H & H—see Arrow-Hart & Hegeman Electric Co.
Kansas City Fuse Co., 4727 Euclid Ave., Kansas City, Mo. "Ad-A-Fuse"
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Perkins—see Bryant Electric Co.
Pierce Renewable Fuses, Inc., 77 E. Swan St., Buffalo, N. Y.
Powell, F. W., 119 W. Ohio St., Pittsburgh, Pa. "Simplex"
Shawmut—see Chase-Shawmut Co.
Simplex—see Powell, F. W.
Simplicity—see Cote Bros. Fuse Mfg. Corp.
Star Fuse Co., 235 Canal St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GAGES, Feeler—
see **Tools,** Armature Repair

GAGES, Gap—
see **Tools,** Armature Repair

GALVANIZED STEEL CABLE—
see **Cable,** Galvanized Steel

GALVANIZED STRAND—
see **Cable,** Galvanized Steel

GALVANIZING and SHERARDIZING

Companies having Facilities for Job Galvanizing and Sherardizing, etc.

American Forge & Machine Co., 1650 Barth St., S. W., Canton, Ohio

Bates Expanded Steel Truss Co., 152d St., East Chicago, Ind.

Bates Steel Corp., Walter, Gary, Ind.

Bessemer Galvanizing Works, Phoenix Bldg., Birmingham, Ala.

Bridgeport Chain Co., 964 Crescent Ave Bridgeport, Conn.

Cattie & Bros., Joseph P., Gaul & Letterly Sts., Philadelphia, Pa.

Chain Products Co., 3924 Cooper Ave Cleveland, Ohio

Geuder, Paeschke & Frey Co., St. Paul Ave. & 15th St., Milwaukee, Wis.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Koven & Bros., L. O., 154 Ogden Ave., Jersey City, N. J.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Malleable Iron Fittings Co., Branford, Conn.

Newark Galvanizing Co., 39 Verona Ave., Newark, N. J.

Parker Rust-Proof Co., 2183 E. Milwaukee Ave., Detroit, Mich.

Philadelphia Rust-Proof Co., 111 W. Montgomery Ave., Philadelphia, Pa.

Pittsburgh Valve & Fittings Co., Barberton, Ohio

Reiter, G. C., 1917 Henry Ave., S. W., Canton, Ohio

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.

Udylite Process Co., 3220 Bellevue Ave., Detroit, Mich.

U. S. Chromium Corp., Wilkinsburg Sta., Pittsburgh, Pa.

Wise Industries, 1043 Mt. Elliott, Detroit, Mich.

GALVANOMETERS

Ballistic, Moving Coil and Vibration Type Galvanometers

Central Scientific Co., 460 E. Ohio St., Chicago, Ill.

Gaertner Scientific Corp., 1201 Wrightwood Ave., Chicago, Ill.

General Radio Co., 30 State St., Cambridge, Mass.

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Illinois Testing Laboratories, 141 W. Austin Ave., Chicago, Ill.

Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

Polymet Mfg. Corp., 829 E. 134th St., New York, N. Y.

Queen—see Gray Instrument Co.

Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.

Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.

Roller-Smith Co., 11 Barclay St., New York, N. Y.

Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.

Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

GAS FILLED LAMPS—

see **Lamps,** Incandescent

GAS LIGHTERS—

see **Lighters,** Electric Gas

GAS PROOF FIXTURES—

see **Fixtures,** Vaporproof

GAS RANGES, Combination—

see **Ranges,** Combination Fuel and Electric

GASKETS, Felt—

see **Felt,** Cutters of

GASOLINE FURNACES—

see **Torches and Furnaces,** Gasoline or Kerosene Blow

GASOLINE TORCHES—

see **Torches and Furnaces,** Gasoline or Kerosene Blow

GEAR MATERIAL, Non-Metallic—

see **Fibre,** Vulcanized
also **Insulation,** Synthetic

GEARS and PINIONS, Cut Insulation—

see **Gears and Pinions,** Fibre and Fabric

GEARS and PINIONS, Fibre and Fabric

Companies prepared to furnish Gears and Pinions of Fibre and Fabric on Contract, from Blueprint or Sample or from Stock

AD—see Albaugh-Dover Mfg. Co.

Albaugh-Dover Mfg. Co., 2100 Marshall Blvd., Chicago, Ill. "AD"

Boston Gear Works Sales Co., Norfolk Downs, (Quincy) Mass.

Cincinnati Gear Co., 1825 Reading Rd., Cincinnati, Ohio

Earle Gear & Machine Co., 4715 Stenton Ave., Philadelphia, Pa.

Foote Bros. Gear & Machine Co., 111 N. Canal St., Chicago, Ill. "IXL"

Gears & Forgings, Inc., 3000 Woodhill Rd., Cleveland, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Grant Gear Works, 154 W. Second St., Boston, Mass.

IXL—see Foote Bros. Gear & Machine Co.

James Mfg. Co., D. O., 1114 W. Monroe St., Chicago, Ill.

Jones Foundry & Machine Co., W. A., 4447 W. Roosevelt Rd., Chicago, Ill.

Philadelphia Gear Works, Erie Ave. & G St., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GEARS and PINIONS, Metal

Companies prepared to furnish Gears and Pinions of Iron or Steel, Brass or Copper on Contract from Blueprint or Sample or from Stock; for Die Cast Gears—see Castings, Die

AD—see Albaugh-Dover Mfg. Co.

Albaugh-Dover Mfg. Co., 2100 Marshall Blvd., Chicago, Ill. "AD"

American Die & Tool Co., Second & Buttonwood Sts., Reading, Pa.

Boston Gear Works Sales Co., Norfolk Downs, (Quincy) Mass.

Brown Co., A. & F., Elizabeth, N. J.

Chain Belt Co., 742 Park St., Milwaukee, Wis. "Rex"

Chicago Gear Mfg. Co., 2825 Fulton St., Chicago, Ill.

Christiana Machine Co., Christiana, Pa.

Cincinnati Gear Co., 1825 Reading Rd., Cincinnati, Ohio

Dodge Mfg. Corp., Union St. & N.Y.C. R.R., Mishawaka, Ind.

Earle Gear & Machine Co., 4715 Stenton Ave., Philadelphia, Pa.

Falk Corp., foot of 30th St., Milwaukee, Wis.

Foote Bros. Gear & Machine Co., 111 N. Canal St., Chicago, Ill. "IXL"

Gears & Forgings, Inc., 3000 Woodhill Rd., Cleveland, Ohio

Grant Gear Works, 154 W. Second St., Boston, Mass.

Hill Clutch Machine & Foundry Co., 6400 Breakwater Ave., N.W., Cleveland, Ohio

Horsburgh & Scott Co., 5114 Hamilton Ave., N. E., Cleveland, Ohio

IXL—see Foote Bros. Gear & Machine Co.

James Mfg. Co., D. O., 1114 W. Monroe St., Chicago, Ill.

Jones Foundry & Machine Co., W. A., 4447 W. Roosevelt Rd., Chicago, Ill.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

Massachusetts Gear & Tool Co., 30 Nashua St., Woburn, Mass.

Meisel Press Mfg. Co., 944 Dorchester Ave., Boston, Mass.

Palmer-Bee Co., 1721 Poland Ave., Detroit, Mich.

Perkins Machine & Gear Co., 130 Circuit Ave., Springfield, Mass.

Philadelphia Gear Works, Erie Ave. & G St., Philadelphia, Pa.

Rex—see Chain Belt Co.

Stahl Gear & Machine Co., 1390 E. 40th St., Cleveland, Ohio

Tool Steel Gear & Pinion Co., Elmwood Pl., Cincinnati, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GEARS and PINIONS, Molded Insulation—

see **Insulation,** Molders of Composition

GEARS and PINIONS, Rawhide

Companies prepared to furnish Gears and Pinions of Rawhide on Contract, from Blueprint or Sample or from Stock

AD—see Albaugh-Dover Mfg. Co.

Albaugh-Dover Mfg. Co., 2100 Marshall Blvd., Chicago, Ill. "AD"

Chicago Rawhide Mfg. Co., 1279 Elston Ave., Chicago, Ill.

Earle Gear & Machine Co., 4715 Stenton Ave., Philadelphia, Pa.

Foote Bros. Gear & Machine Co., 111 N. Canal St., Chicago, Ill. "IXL"

Gears & Forgings, Inc., 3000 Woodhill Rd., Cleveland, Ohio

Grant Gear Works, 154 W. Second St., Boston, Mass.

Horsburgh & Scott Co., 5114 Hamilton Ave., N. E., Cleveland, Ohio

IXL—see Foote Bros. Gear & Machine Co.

James Mfg. Co., D. O., 1114 W. Monroe St., Chicago, Ill.

Jones Foundry & Machine Co., W. A., 4447 W. Roosevelt Rd., Chicago, Ill.

Philadelphia Gear Works, Erie Ave. & G St., Philadelphia, Pa.

Stahl Gear & Machine Co., 1390 E. 40th St., Cleveland, Ohio.

GENERATORS, A. C. Synchronous

Standard Alternating Current Generators revolving at Constant Instantaneous Synchronous Speed under Variable Load

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Continental Electric Co., 323 Ferry St., Newark, N. J.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Electric Machinery Mfg. Co., 1331 N. E. Tyler St., Minneapolis, Minn.
Elliott Co., Frick Bldg., Jeannette, Pa.
Fairbanks, Morse & Co.. 900 S. Wabash Ave., Chicago, Ill.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.
Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.
Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, D. C. Constant Current

Series, Compound or Special Types for providing approximately Constant Current with or without Large Voltage Changes; for Electroplating Generators —see Generators, Plating

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Columbia Electric Mfg. Co., 1292 E. 53d St., Cleveland, Ohio
Connecticut Dynamo & Motor Co., Lyons Ave. & Coit St., Irvington, N. J.
Continental Electric Co., 323 Ferry St., Newark, N. J.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Electro Dynamic Co., Bayonne, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hanson-Van Winkle-Munning Co., Matawan, N. J.
Imperial Electric Co., 64 Ira Ave., Akron, Ohio
Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.
Peerless Electric Co., 740 W. Market St., Warren, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, D. C. Shunt and Compound

Generators with either Shunt or Compound Windings

Actodector—see Roth Bros. & Co.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.
Bogue Electric Co., Chas. J., 138 King St., New York, N. Y.
Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.
Comet Electric Co., Union Trust Bldg., Indianapolis, Ind.
Continental Electric Co., 323 Ferry St., Newark, N. J.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84
Electro Dynamic Co., Bayonne, N. J.
Elliott Co., Frick Bldg., Jeannette, Pa.
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.
Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Ideal Electric & Mfg. Co., Mansfield, Ohio
Imperial Electric Co., 64 Ira Ave., Akron, Ohio
Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio.
Marble-Card Electric Co., Gladstone, Mich.
Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.
Rochester Electric Products Corp., 89 Allen St., Rochester, N. Y.
Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill. "Actodector"
Sturtevant Co., B. F., (Hyde Park) Boston, Mass.
Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, D. C. Three-Wire

Direct Current Generators designed to operate on a Three-Wire Distribution System without a Balancer Set

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Elliott Co., Frick Bldg., Jeannette, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, Double Current

Generators supplying both A.C. and D.C.; for Synchronous Converters—see Converters, Synchronous

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, Electroplating—

see **Generators,** Plating

GENERATORS, Electrotherapeutic

Sets Generating High Frequency Current for Therapeutic uses and equipped with Special Glass Tube Electrodes; for Medical Batteries—see Batteries, Medical

Bleadon-Dun Co., 2300 Warren Ave., Chicago, Ill. "Multifrex" "Violetta"
Branston, Inc., Chas. A., 297 Washington St., Buffalo, N. Y.
Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvel"
Elco—see Lindstrom & Co.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"
General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y. "Gesco"
Gesco—see General Engineering & Supply Co.
Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.
Lindstrom & Co., 2322 Indiana Ave., Chicago, Ill. "Elco"
Marvel—see Eastern Laboratories
Master Electric Co., 421 S. Market St., Chicago, Ill.
Meyer Co., Wm., 1648 N. Girard St., Chicago, Ill.
Multifrex—see Bleadon-Dun Co.
National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"
Parco Mfg. Co., 211 High Ave., Cleveland, Ohio
Roche Electric Machine Co., 215 Division St., N., Grand Rapids, Mich.
Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio
Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.
Star-Rite—see Fitzgerald Mfg. Co.
Victor X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.
Violet Ray Corp., 555 W. Madison St., Chicago, Ill.
Violetta—see Bleadon-Dun Co.
White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.
White Cross—see National Stamping & Electric Works

GENERATORS, Excitation—

see **Generators,** Electrotherapeutic

GENERATORS, High Frequency—

see **Generators,** Electrotherapeutic

GENERATORS, Industrial Ozone

Machines for Generating Ozone for use in Commercial Establishments

Air Conditioning & Engineering Co., 2914 S. Jefferson Ave., St. Louis, Mo. "Electrozone"
Electrozone—see Air Conditioning & Engineering Co.
Goldberg Ozone Machine Co., 930 N. East St., Indianapolis, Ind.
Ozone Pure Airifier Co., 1457 W. Congress St., Chicago, Ill.
United States Ozone Co. of America, Scottdale, Pa.

GENERATORS, Magneto

Generators provided with a Field by Permanent Magnets

General Electric Co., 1 River Rd., Schenectady, N. Y.
Leich Electric Co., Genoa, Ill.
Utica Fire Alarm Telegraph Co., 502 Oriskany St., W., Utica, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GENERATORS, Motion Picture—

see **Generators,** D.C. Shunt and Compound

GENERATORS, Motor—

see **Motor-Generators,** Battery Charging also **Motor-Generators,** Current Supply

GENERATORS, Plating

Low Voltage Generators used for Electroplating

Bogue Electric Co., Chas. J., 138 King St., New York, N. Y.
Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.
Columbia Electric Mfg. Co., 1292 E. 53d St., Cleveland, Ohio
Connecticut Dynamo & Motor Co., Lyons Ave. & Coit St., Irvington, N. J.
Eager Electric Co., 522 Newell St., Watertown, N. Y.
Hanson - Van Winkle - Munning Co., 104 Church St., Matawan, N. J.
Ideal Electric & Mfg. Co., Mansfield, Ohio
Jantz & Liest Electric Co., Western Ave. & York St., Cincinnati, Ohio
L'Hommedieu & Sons Co., Chas. F., 4521 Ogden Ave., Chicago, Ill. "Reliance"
Reliance—see L'Hommedieu & Sons
Rochester Electric Products Corp., 89 Allen St., Rochester, N. Y.
Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.

GENERATORS, Therapeutic Ozone

Appliances for Generating Ozone for Therapeutic Purposes

Ballentine—see Russell Electric Co.
Corozone of New York, Inc., 79 W. 45th St., New York, N. Y.
Elco—see Lindstrom & Co.
Goldberg Ozone Machine Co., 930 N. East St., Indianapolis, Ind.

GENERATORS, Therapeutic Ozone (Continued)

Lindstrom & Co., 2322 Indiana Ave., Chicago, Ill. "Elco"
Paske Air Purifier, Davis-Farley Bldg., Cleveland, Ohio
Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Ballentine"
Sun-O-Zone Products Co., 34 Euclid Arcade, Cleveland, Ohio

GENERATORS, Train Lighting—

see **Generators,** D.C. Constant Current

GENERATORS, Welding—

see **Generators,** D.C. Constant Current

GERMAN SILVER WIRE—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

GLASS BATTERY JARS—

see **Jars,** Glass Battery

GLASS BULBS—

see **Bulbs,** Incandescent Lamp

GLASS BULLSEYES—

see **Bullseyes,** Glass

GLASS ETCHING COMPOUNDS—

see **Compounds, Racks and Stamps,** Glass Etching

GLASS GLOBES—

see **Globes,** Glass

GLASS INSULATORS—

see **Insulators,** Glass

GLASS SHADES—

see **Shades,** Metal and Glass

GLASS SWITCH PLATES—

see **Plates,** Flush Switch and Outlet

GLOBES, Arc Lamp—

see **Globes,** Glass

GLOBES, Glass

Vaporproof and Arc or Street Lamp Globes of Clear or Opal Glass

Consolidated Lamp & Glass Co., Coraopolis, Pa.
Corning Glass Works, Corning, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gill Glass & Fixture Co., Amber & Venango Sts., Philadelphia, Pa.
Gillinder Bros., Port Jervis, N. Y.
Gleason-Tiebout Glass Co., 200 Fifth Ave., New York, N. Y.
Ivanhoe Division of Miller Co., 5716 Euclid Ave., Cleveland, Ohio
Litchfield Corp., 25 Dey St., New York, N. Y.
Macbeth-Evans Glass Co., Charleroi, Pa.
Phoenix Glass Co., Monaca, Pa.
Steimer-Doran & Rowe, Grant Bldg., Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GLOBES, Ornamental

Spherical Glass Globes for use on Ceiling Lighting Fixtures—for Glass Shades—see Shades, Metal and Glass

Celestialite—see Gleason-Tiebout Glass Co.
Consolidated Lamp & Glass Co., Coraopolis, Pa.
Filterlite—see Holophane Co.
Gillinder Bros., Port Jervis, N. Y.
Gleason-Tiebout Glass Co., 200 Fifth Ave., New York, N. Y. "Celestialite"
Holophane Co., 342 Madison Ave., New York, N. Y. "Filterlite," "Reflector-Refractor"
Inland Glass Works, 6101 W. 65th St., Chicago, Ill.
Macbeth-Evans Glass Co., Charleroi, Pa.
Reflector-Refractor—see Holophane Co.
Weiss & Bheller, 584 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GLOVE POUCHES—

see **Belts,** Lineman's

GLOVES, Lineman's Leather

Leather Gloves designed for use by Linemen

Hansen Mfg. Co., O. C., 531 Wright St., Milwaukee, Wis.
Mathias-Hart Co., 98 Academy St., Newark, N. J.
SR—see Seamless Rubber Co.
Salisbury & Co., W. H., 308 W. Madison St., Chicago, Ill.
Sargent—see Spencer Glove Co.
Seamless Rubber Co., 253 Hallock Ave., New Haven, Conn. "SR"
Snyder & Son, M. L., 116 N. Third St., Philadelphia, Pa.
Spencer Glove Co., 430 Fulton St., Waverly, N. Y. "Sargent"

GLOVES, Rubber

Gloves of Rubber; for Sleeves of Rubber—see Sleeves, Rubber

Aetna Rubber Co., 815 E. 79th St., Cleveland, Ohio
Faultless Rubber Co., Ashland, Ohio "Hi-Duty"
Guardian Mfg. & Supply Corp., Graybar Bldg., New York, N. Y.
Hi-Duty—see Faultless Rubber Co.
Lineman Protector Co., Penobscot Bldg., Detroit, Mich. "Marshall's"
Marshall's—see Lineman Protector Co.
Mathias-Hart Co., 98 Academy St., Newark, N. J. "Perfection"
Perfection—see Mathias-Hart Co.
SR—see Seamless Rubber Co.
Salisbury & Co., W. H., 308 W. Madison St., Chicago, Ill.
Seamless Rubber Co., 253 Hallock Ave., New Haven, Conn. "SR"
Snyder & Son, M. L., 116 N. Third St., Philadelphia, Pa.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "US"
Wilson Rubber Co., 1216 Garfield Ave., Canton, Ohio

GLUE POTS—

see **Pots,** Electric Glue

GOLD—

see **Platinum**

GONGS—

see **Bells**

GRABBERS, Fuse—

see **Tongs,** Fuse and Wire

GRAPHITE BRUSHES—

see **Brushes,** Carbon and Graphite

GRAY IRON CASTINGS—

see **Castings,** Gray Iron

GRIDDLES, Electric Household

Frying and Baking Utensils for use on the Table

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.
Domino—see Dominion Electrical Mfg. Co.
Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn. "Domino"
E-Z—see Keene Machine Co.
Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Empire—see Metal Ware Corp.
Everhot—see Swartzbaugh Mfg. Co.
Excelo—see Economy Aluminum Co.
Hotpoint—see Edison General Electric Appliance Co.
Keene Machine Co., O. S., Anderson, Ind. "E-Z"
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Majestic Electric Appliance Co., 2401 Chestnut St., Philadelphia, Pa.
Malleable Iron Range Co., 310 Lake St., Beaver Dam, Wis. "Monarch"
Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"
Monarch—see Malleable Iron Range Co.
Prometheus Electric Corp., 360 W. 13th St., New York, N. Y.
Rimco—see Rock Island Mfg. Co.
Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"
Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"
Universal—see Landers, Frary & Clark
Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

GRINDERS, Commutator

Tools for use in Truing up Commutators; for Commutator Stones—see Stones, Commutator Grinding

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
Cataloged on page 139
Jordan Bros., 74 Beekman St., New York N. Y.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio.

GRINDERS, Electric—

see **Buffers and Grinders**

GRINDING STONES—

see **Stones,** Commutator Grinding

GRINDING WHEELS—

see **Wheels,** Grinding

GRIPS, Cable and Wire

For Holding and Pulling Line Wire and Cable during Construction

Bulldog—see Page Engineering Co.
Chicago—see Klein & Sons
Cope, T. J., 6122 Vine St., Philadelphia, Pa.
Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"
Dicke Tool Co., Downers Grove, Ill.

Kearney Corp., James R., 4232 Clayton Ave., St. Louis, Mo.
Kellems Products, Inc., 6 Varick St., New York, N. Y.
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill. "Chicago"
Page Engineering Co., 1305 S. Townsend St., Syracuse, N. Y. "Bulldog"
Red Devil—see Crescent Tool Co.
Universal Cable Grip Co., 50 Genesee St., Skaneateles, N. Y.
W. T. Safety Tool Co., College & Center Sts., Decatur, Ill.

GRIPS, Fish Tape—
see **Pullers,** Fish Tape

GRIPS, Plug
Handles that can be applied to Caps of Separable Plugs
Pull-A-Plug—see Ren Mfg. Co.
Ren Mfg. Co., 11 Railroad Ave., Winchester, Mass. "Pull-A-Plug"

GROMMET SETTING MACHINES—
see **Machines,** Eyelet Setting

GROMMETS—
see **Eyelets,** Brass

GROUND CLAMPS—
see **Clamps,** Ground

GROUND MICA—
see **Mica**

GROUND PIPES—
see **Rods,** Ground

GROUND RESISTANCE TESTERS—
see **Sets,** Electrical Testing

GROUND RODS—
see **Rods,** Ground

GROUND WIRE BAYONETS—
see **Brackets,** Metal Insulator

GROUND WIRE CLAMPS—
see **Clamps,** Ground

GROUND WIRE MOLDING—
see **Molding,** Wood

GROUNDHEADS—
see **Rods,** Ground

GROUNDS, Cone and Cylinder
Special Forms of Metal Grounds; for Ground Rods—see Rods, Ground
Fairmount Electric & Mfg. Co., 59th & Woodland Ave., Philadelphia, Pa.
Paragon Electric Co., 37 W. Van Buren St., Chicago, Ill.

GROUNDS, Plate—
see **Grounds,** Cone and Cylinder

GROWLERS—
see **Testers,** Armature

GUARDS, Fixture
Wire Nets or Cages to protect entire Lighting Units; for Lamp Guards—see Guards, Lamp
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 109
Full-O-Lite Co., 296 Broadway, New York, N. Y.
Gray Wire Specialty Co., 18515 Detroit Ave., Cleveland, Ohio
Hamblin & Russell Mfg. Co., 28 Water St., Worcester, Mass.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Jaehnig Lighting Fixture Co., 221 13th Ave., Newark, N. J.
Manhattan Wire Products Co., 398 First Ave., New York, N. Y.
R. & S.—see Russell & Stoll Co.
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wheeler Reflector Co., 275 Congress St., Boston, Mass.

GUARDS, Lamp
Wire Cages to protect Incandescent Lamps; for Nets to protect Clusters and Bowls—see Guards, Fixture
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 59
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Keystone"
Eureka—see Morse Co.
Flexco—see Flexible Steel Lacing Co.
Flexible Steel Lacing Co., 4631 Lexington St., Chicago, Ill. "Flexco"
Hamblin & Russell Mfg. Co., 28 Water St., Worcester, Mass.
Hessel Co., W. F., 76 Greenwich St., New York, N. Y.
Holdfast—see Matthews Corp.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Jaehnig Lighting Fixture Co., 221 13th Ave., Newark, N. J.
Keystone—see Electric Service Supplies Co.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Loxon—see McGill Mfg. Co.
McGill Mfg. Co., Valparaiso, Ind. "Loxon"
Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo. "Holdfast"
Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"
R. & S.—see Russell & Stoll Co.
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."
Standard Wire Co., New Castle, Pa.
Washburn Co., 6126 S. La Salle St., Chicago, Ill.
Wheeler Reflector Co., 275 Congress St., Boston, Mass.

GUMS, Impregnating—
see **Compounds,** Insulating

GUNS, Electric Paint Spray—
see **Sprayers,** Hand Paint

GUY ANCHORS—
see **Anchors,** Earth Guy
also **Anchors,** Rock Guy

GUY HOOKS—
see **Hooks,** Guy

GUY RODS—
see **Rods,** Anchor and Guy

GUY THIMBLES—
see **Thimbles,** Wire Rope

HAIR CLIPPERS—
see **Clippers,** Electric Hair

HAIR CURLERS—
see **Irons,** Electric Curling

HAIR DRIERS—
see **Driers,** Electric Hair

HAIR SPRINGS—
see **Springs,** Hair

HAIR STRAIGHTENERS—
see **Combs,** Electrically Heated

HAIR WAVERS—
see **Irons,** Electric Curling

HAMMER DRILLS—
see **Drills,** Hammer and Spring
also **Hammers,** Electric Portable

HAMMERS, Electric Portable
Hammer Type Drills Electrically Operated; for Rotary Electric Drills—see Drills, Electric Portable
Ajax—see Stanley Electric Tool Co.
Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 37
Chicago Pneumatic Tool Co., 6 E. 44th St., New York, N. Y. "Little Giant"
Electric Hammer Corp., 414 S. Third St., Louisville, Ky. "Roberts"
Little Giant—see Chicago Pneumatic Tool Co.
Roberts—see Electric Hammer Corp.
Speedway Mfg. Co., 1834 S. 52d Ave., Cicero, Ill.
Stanley Electric Tool Co., New Britain, Conn. "Ajax"
Stow Mfg. Co., 445 State St., Binghamton, N. Y.
Syntron Co., 400 N. Lexington Ave., Pittsburgh, Pa.

HAMMERS, Machinist's
Machinist's Hand Hammers
Billings & Spencer Co., Laurel & Park Sts., Hartford, Conn.
Bridgeport Hardware Mfg. Corp., Iranistan Ave., Bridgeport, Conn.
Evansville Tool Works, Evansville, Ind.
Fairmount Tool & Forging Co., 10611 Quincy Ave., Cleveland, Ohio
Goodell-Pratt Co., Wells St., Greenfield, Mass.
Maydole Hammer Co., David, 45 Lackawanna Ave., Norwich, N. Y.
Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"
Pexto—see Peck, Stow & Wilcox Co.
Prentiss Vise Co., 110 Lafayette St., New York, N. Y.
Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.

HAND DRIERS—
see **Driers,** Electric Hand and Face

HAND DRILLS—
see **Drills,** Hand and Breast

HAND LAMPS—
see **Lamps,** Portable Hand

HAND SAWS—
see **Saws,** Electric Hand

HAND VISES—
see **Vises,** Hand and Pin

HANDLES, Battery—
see **Carriers,** Battery

HANDLES, Portable Lamp Safety
Insulated Handles and Lamp Sockets for use on Portable Hand Lamps

C & E—see Ericson Mfg. Co.

Ericson Mfg. Co., 1987 E. 105th St., Cleveland, Ohio. "C & E"

Protex—see Woodhead Co.

Vaprotex—see Woodhead Co.

Woodhead Co., Daniel, 15 N. Jefferson St., Chicago, Ill. "Protex" "Vaprotex"

HANDLES, Wooden Appliance
Contract Companies prepared to furnish Turned Wooden Articles

Bogert & Hopper, 225 Varick St., New York, N. Y.

Estes & Sons, E. B., 25 Vanderbilt Ave. New York, N. Y.

Fitchburg Enamel Co., Fitchburg, Mass

Flanders Hardware Co., North Weare N. H.

Novelty Turning Co., 34 Main St., Norway, Me.

Piqua Handle & Mfg. Co., Piqua, Ohio

Stiles & Co., H. A., 166 Portland St. Boston, Mass.

Stratton Mfg. Co., Stratton, Me.

Strombeck-Becker Mfg. Co., Moline, Ill.

Sun Enamel Works, Leominister, Mass.

HANGERS, Cable—
see **Rings,** Cable

HANGERS, Conduit Pipe
Metal Hangers for Suspending Conduit and Cable from Ceilings, etc.; for Beam Clamps—see Clamps, Beam

American Expansion Bolt Co., 108 N. Jefferson St., Chicago, Ill.

Crouse-Hinds Co., Wolf & Seventh Nortl Sts., Syracuse, N. Y. "Wedgtite"

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Keystone-State Products Corp., Blairsville, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill.

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

Wedgtite—see Crouse-Hinds Co.

HANGERS, Fixture—
see **Studs,** Fixture

HANGERS, Hickey—
see **Hickeys,** Fixture Hanging

HANGERS, Industrial Lamp—
see **Switches,** Lamp Suspension

HANGERS, Outlet Box
Metal Bars, Straps or Angles to mount Outlet Boxes on Studs or Joists

Adapti Co., 2996 E. 72d St., Cleveland, Ohio

American Circular Loom Co., 90 West St. New York, N. Y.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

B. & L. Metal Stamping Co., 250 Moore St., Brooklyn, N. Y. "Belmet"

Belmet—see B. & L. Metal Stamping Co.

Bendit—see National Electric Products Corp.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

C. S. T.—see Chicago Steel Tank Co.

Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Empire Switchboard Co., Fourth Ave. & 28th St., Brooklyn, N. Y.

Fitz-M-All—see Mid-West Metal Products Co.

General Electric Co., Bridgeport, Conn. Cataloged on pages **65-66**

Hanger Electric Mfg. Co., 105 S. Dearborn St., Chicago, Ill.

Hub-Way Mfg. Co., Hubbard, Ohio

J-Co.—see Johnson Mfg. Co.

Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"

Johnson Mfg. Co., 314 Cherry St., Philadelphia, Pa. "J-Co."

Kruse—see Mid-West Metal Products Co.

Mansfield Electric Hardware Co., Mansfield, Ohio.

Mid-West Metal Products Co., Second & Pierce Sts., Muncie, Ind. "Fitz-M-All" "Kruse"

Midwest Electric Co., 1639 Walnut St., Chicago, Ill.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Bendit"

Paine Co., 2951 Carroll Ave., Chicago, Ill

Quadrangle Mfg. Co., 32 S. Peoria St., Chicago, Ill.

Raco—see Roach-Appleton Mfg. Co.

Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

T & B—see Thomas & Betts Co.

Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"

Union—see Jefferson Electric Co.

Vandy, B. A., 7 Prospect St., Rochester N. Y.

HARD FIBRE—
see **Fibre,** Vulcanized

HARD RUBBER—
see **Rubber,** Hard

HARNESSES, Cable—
see **Wires,** Cabled Insulated

HARNESSES, Safety—
see **Belts,** Lineman's

HEALTH EXERCISERS—
see **Exercisers,** Electric

HEALTH LAMPS—
see **Lamps,** Therapeutic

HEAT CONTROLLED SWITCHES—
see **Switches,** Thermostat Controlled

HEATED COMBS—
see **Combs,** Electrically Heated

HEATER CORD—
see **Cord,** Asbestos Covered

HEATER CORD YARN, Asbestos—
see **Yarn,** Asbestos

HEATER PLATES—
see **Mica**

HEATER SWITCHES—
see **Switches,** Series Multiple Snap
also **Switches,** Thermostat Controlled

HEATER WIRE—
see **Wire,** Asbestos Covered

HEATERS, Cartridge Type—
see **Heaters,** Industrial Space

HEATERS, Curling Iron
Special Heater Appliances designed to heat Non-Electric Curling Irons; for Electric Curling Irons—see Irons, Electric Curling

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvel"

Electric Mfg. Co., 27 Thames St., New York, N. Y. "Solar"

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Marvel—see Eastern Laboratories

Master Electric Co., 421 S. Market St., Chicago, Ill.

Meyer Co., Wm., 1648 N. Girard St., Chicago, Ill.

Morton Electric Motor Co., 2432 Norton Ave., Kansas City, Mo.

Op-Al Electric & Mfg. Co., 1057 W. 30th St., Indianapolis, Ind.

Solar—see Electric Mfg. Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa.

HEATERS, Electric Immersion, Commercial Type
Electric Immersion Heaters for Commercial Use; for Household Type Electric Immersion Heaters—see Heaters, Electric Immersion, Household Type

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

C-H—see Cutler-Hammer

Chromalox—see Wiegand Co.

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hold-Heet—see Russell Electric Co.

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Cataloged on page **105**

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

HEATERS, Electric Immersion, Household Type

Electric Immersion Heaters for Household Use; for Commercial Type Electric Immersion Heaters—see Heaters, Electric Immersion, Commercial Type

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Clean-Heat Appliance Co., 604 Mission St., San Francisco, Cal.

Columbia Electric Mfg. Co., 472 Louisiana Ave., Washington, D. C.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Freed-Eisemann Radio Corp., Liberty Ave. & Junius St., Brooklyn, N. Y.

Hankscraft Co., 615 E. Washington Ave., Madison, Wis. "Jiffy"

Hotpoint—see Edison General Electric Appliance Co.

Jiffy—see Hankscraft Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

National Electric Appliance Co., Madison Ave. & W. 83d St., Cleveland, Ohio

Universal—see Landers, Frary & Clark

Varick Electric Mfg. Co., 38 E. 21st St., New York, N. Y.

Waage, A. H., 112 Chambers St., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

HEATERS, Faucet Type

Water Faucets Equipped with Electric Heating Coils

Electric Heater Corp., State & Bostwick Aves., Bridgeport, Conn.

Summit Mfg. Co., American Bank Bldg., Davenport, Iowa

HEATERS, Fireplace—

see **Fireplaces,** Electric

HEATERS, Flask—

see **Heaters,** Laboratory Flask

HEATERS, Forging—

see **Heaters,** Rivet

HEATERS, Hot Water Bottle

Immersion Type Heaters designed to heat Hot Water Bottles

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Keephot"

Aqua Thermo—see Rogers Electric Laboratories

Keephot—see Appleton Electric Co.

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio. "Aqua Thermo"

Steinmetz Heating Co., 30 Church St., New York, N. Y. "Wilnik"

Wilnik—see Steinmetz Heating Co.

HEATERS, Industrial Space—

Enclosed Strip Type and Similar Forms of Heating Units; for Radiant Heaters—see Heaters, Portable Radiant—also Heaters, Stationary Radiant; for Enclosed Heaters—see Heaters, Portable Enclosed

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

C-H—see Cutler-Hammer

Chromalox—see Wiegand Co.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Dalton-Marsh Co., 90 Holten St., Danvers, Mass.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Globar Corp., Hyde Park Blvd., Niagara Falls, N. Y.

Hold-Heet—see Russell Electric Co.

Ribohm—see Ward Leonard Electric Co.

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Time-O-Stat Controls Co., Elkhart, Ind.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y. "Ribohn"

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **105**

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

HEATERS, Knife—

see **Heaters,** Tool

HEATERS, Laboratory Flask

For Laboratory Test Tube Heaters—see Heaters, Test Tube

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Hevi Duty Electric Co., 217 Michigan St., Milwaukee, Wis.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

HEATERS, Organ Chamber

Electric Heaters designed for Installation in Organ Chambers

Buffalo Gas Radiator Corp., North Tonawanda, N. Y.

Evenheeter—see Time-O-Stat Controls Co.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Kausalite Mfg. Co., 8129 Rhodes Ave., Chicago, Ill.

Time-O-Stat Controls Co., Elkhart, Ind. "Evenheeter"

HEATERS, Pipe

Electric Heaters for Application directly to the Exterior of a Pipe

Hynes & Cox Electric Corp., 406 N. Pearl St., Albany, N. Y.

HEATERS, Portable Enclosed

Enclosed or Box Type Room Heaters

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

AMCO—see Apex Mfg. Co.

Ameco—see American Metal Specialty Co.

American Metal Specialty Co., 3 Appleton St., Boston, Mass. "Ameco"

Apex Mfg. Co., Landregan & Powell Sts., (Emeryville) Oakland, Cal. "AMCO"

Apfelectric—see Electric Heating & Mfg. Co.

Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bossert Corp., 1002 Oswego St., Utica, N. Y.

Buffalo Gas Radiator Corp., North Tonawanda, N. Y. "Niagara"

Carmean Electric Co., 1609 E. Ninth St., Kansas City, Mo.

Chromalox—see Wiegand Co.

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Detroit Electric Stove Co., 3435 Piquette Ave., Detroit, Mich.

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electric Heating & Mfg. Co., 600 Harrison St., Seattle, Wash. "Apfelectric"

Faraday Corp., 746 Chapel St., New Haven, Conn.

Heaturn—see Wesix, Inc.

Heetaires—see Markel Electric Products

Hotpoint—see Edison General Electric Appliance Co.

L & H—see Lindemann & Hoverson Co.

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Lynn Products Co., 7 Willow St., Lynn, Mass.

Majestic Electric Appliance Co., 2401 Chestnut St., Philadelphia, Pa.

Marion—see Rutenber Electric Co.

Markel Electric Products, Inc., 145 Seneca St., Buffalo, N. Y. "Heetaires"

Niagara—see Buffalo Gas Radiator Corp.

Prometheus Electric Corp., 360 W. 13th St., New York, N. Y.

Rome Mfg. Co., Railroad St., Rome, N. Y.

Rutenber Electric Co., Marion, Ind. "Marion"

Schleicher, Inc., 3824 Georgia St., Gary, Ind. "Slyker Konvektair"

Sepco—see Automatic Electric Heater Co.

Seymour Products Co., Seymour, Conn.

Slyker Konvektair—see Schleicher, Inc.

Southern Wesix Co., 617 Tenth St., Birmingham, Ala.

Super Lectric—see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Thermostove Corp., 153 13th St., Oakland, Cal.

Torrid—see Beardsley & Wolcott Mfg. Co.

Trueblood, H. A., 1316 Ninth St., Modesto, Cal.

Utica Products, Inc., Utica, N. Y.

Wehrle Co., Newark, Ohio

Weir Electric Appliance Co., 26th and Adeline Sts., Oakland, Cal.

Wesix, Inc., Rialto Bldg., San Francisco, Cal. "Heaturn"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa., "Chromalox"

HEATERS, Portable Radiant

Radiant or Reflecting Types with Cord for Socket Attachment

Acme Electric Heating Co., 1217 Washington St., Boston, Mass. "Sun Rose"

AMCO—see Apex Mfg. Co.

Anderson-Pitt Corp., 211 Goodrich Pl., Kansas City, Mo. "Focalipse"

Apex Mfg. Co., Landregan & Powell Sts., (Emeryville) Oakland, Cal. "AMCO"

Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"

Banner Electric Co., 119 17th St., Buffalo, N. Y.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Betsy Ross—see Central Flatiron Mfg. Co.

Bossert Corp., 1002 Oswego St., Utica, N. Y.

Cannon Oiler Co., Keithsburg, Ill.

Case Electric Corp., 11th & Adams Sts., Marion, Ind. "Ev'ryday"

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Century Stove & Mfg. Co., Johnstown, Pa. "Sun-Stream"

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Cincinnati Victor Co., 712 Reading Rd., Cincinnati, Ohio. "Victor"

Cochran-Detroit Co., Stephenson Bldg., Detroit, Mich.

Coolee Mfg. Co., Sandusky, Ohio. "O'Kay"

Cozy Glow—see Westinghouse Electric & Mfg. Co.

Crescent Appliance Corp., 415 Somerset St., Gloucester City, N. J.

Delta Products Mfg. Co., Bryan, Ohio

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Double Heat Electric Heater Co., 33 W. 42d St., New York, N. Y.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

HEATERS, Portable Radiant (Continued)

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Empco—see Metal Ware Corp.

Empire—see Metal Ware Corp.

Estate Stove Co., Hamilton, Ohio

Everhot—see Swartzbaugh Mfg. Co.

Ev'ryday—see Case Electric Corp.

Favorite Stove & Range Co., Piqua, Ohio

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Focalipse—see Anderson-Pitt Corp.

Foldex Mfg. Corp., 1435 Franklin St., Detroit, Mich.

Genesee Electric Co., Mount Morris, N. Y.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Gill Glass & Fixture Co., Amber & Venango Sts., Philadelphia, Pa.

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.

Greenfield Co., Harrison Bldg., Philadelphia, Pa. "Kozy"

Handy—see Chicago Electric Mfg. Co.

Heetaires—see Markel Electric Products

Hipwell Mfg. Co., 825 North Ave., N. S., Pittsburgh, Pa.

Hot Glow Electric Mfg. Co., 1511 Niagara St., Buffalo, N. Y.

Hotpoint—see Edison General Electric Appliance Co.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-a-Hot"

Kozy—see Greenfield Co.

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn., "Thermax" "Universal"

Lawson Mfg. Co., 300 Lexington Ave., Pittsburgh, Pa.

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Majestic Electric Appliance Co., 2401 Chestnut St., Philadelphia, Pa.

Marion—see Rutenber Electric Co.

Markel Electric Products, Inc., 145 Seneca St., Buffalo, N. Y. "Heetaires"

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empco" "Empire"

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.

O'Kay—see Coolee Mfg. Co.

Polar Cub—see Gilbert Co.

Proctor & Schwartz Electric Co., Seventh St. and Tabor Rd., Philadelphia, Pa.

Radia—see Shepler Stove Co.

Rimco—see Rock Island Mfg. Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Royal Rochester—see Robeson Rochester Co.

Rutenber Electric Co., Marion, Ind. "Marion"

Sepco—see Automatic Electric Heater Co.

Shepler Stove Co., F. W., 1312 Sheffield St., Pittsburgh, Pa. "Radia"

Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

Star-Rite—see Fitzgerald Mfg. Co.

Steinmetz Heating Co., 30 Church St., New York, N. Y.

Sun Rose—see Acme Electric Heating Co.

Sun-Stream—see Century Stove & Mfg. Co.

Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"

Thermax—see Landers, Frary & Clark

Thermo-a-Hot—see Knapp-Monarch Co.

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Victor—see Cincinnati Victor Co.

Weir Electric Appliance Co., 26th & Adeline Sts., Oakland, Cal.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Cozy Glow"
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White Cross—see National Stamping & Electric Works

HEATERS, Radiator Type—

see **Radiators,** Electric Fluid Type

HEATERS, Rivet

Electric Machines for Heating Rivets by Passing Current through them

American Car & Foundry Co., Berwick, Pa. "Berwick"

American Hoist & Derrick Co., 63 S. Robert St., St. Paul, Minn. "Crosby"

Berwick—see American Car & Foundry Co.

Crosby—see American Hoist & Derrick Co.

Electric Heater Co., 366 Jefferson Ave., New London, Conn.

HEATERS, Space—

see **Heaters,** Industrial Space
also **Heaters,** Portable Enclosed

HEATERS, Stationary Radiant

Radiant or Reflecting Types for Permanent Mounting; for Portable Radiant Heaters—see Heaters, Portable Radiant

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Adams Bros. Mfg. Co., 1500 Fayette St., Pittsburgh, Pa.

AMCO—see Apex Mfg. Co.

Apex Mfg. Co., Landregan & Powell Sts., (Emeryville) Oakland, Cal. "AMCO"

Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"

Bay Ridge Specialty Co., 682 Stokes Ave., Trenton, N. J.

Clark—see McGraw Electric Co.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electric Heating & Mfg. Co., 600 Harrison St., Seattle, Wash. "Heet-feet"

Heaturn—see Wesix, Inc.

Heet-feet—see Electric Heating & Mfg. Co.

Heetaires—see Markel Electric Products

Hersh Electric Specialty Co., 3320 Fond du Lac Ave., Milwaukee, Wis.

Hotpoint—see Edison General Electric Appliance Co.

L & H—see Lindemann & Hoverson Co.

Lawson Mfg. Co., 300 Lexington Ave., Pittsburgh, Pa.

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

McGraw Electric Co., Capitol Ave. at 13th St., Omaha, Neb. "Clark"

Majestic Electric Appliance Co., 1705 Allegheny Ave., Philadelphia, Pa.

Marion—see Rutenber Electric Co.

Markel Electric Products, Inc., 145 Seneca St., Buffalo, N. Y. "Heetaires"

Prometheus Electric Corp., 360 W. 13th St., New York, N. Y.

Radia—see Shepler Stove Co.

Ray-Glo Corp., Oak & Palmer Sts., Athens, Ohio

Rutenber Electric Co., Marion, Ind., "Marion"

Sepco—see Automatic Electric Heater Co.

Shepler Stove Co., F. W., 1312 Sheffield St., Pittsburgh, Pa. "Radia"

Southern Wesix Co., 617 N. Tenth St., Birmingham, Ala.

Steinmetz Heating Co., 30 Church St., New York, N. Y.

Weir Electric Appliance Co., 26th & Adeline Sts., Oakland, Cal.

Wesix, Inc., Rialto Bldg., San Francisco, Cal. "Heaturn"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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HEATERS, Strip Type—

see **Heaters,** Industrial Space

HEATERS, Test Tube

For Laboratory Flask Heaters—see Heaters, Laboratory Flask

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

HEATERS, Tool

Bench type Heaters to heat Knives or other Flat Tools

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

HEATERS, Unit Type

Motor Operated Combined Ventilating and Heating Units

Air-Way Electric Appliance Corp., 618 Broadway, Toledo, Ohio

American Blower Corp., 6000 Russell St., Detroit, Mich.

Autovent Fan & Blower Co., 1814 N. Kostner Ave., Chicago, Ill.

Bayley Blower Co., 750 Greenbush St., Milwaukee, Wis.

Buckeye Blower Co., 400 Dublin Ave., Columbus, Ohio. "Heatovent"

Buffalo Forge Co., 507 Broadway, Buffalo, N. Y.

Cyclo-Fin—see Garden City Fan Co.

Garden City Fan Co., 332 S. Michigan Ave., Chicago, Ill. "Cyclo-Fin"

Globar Corp., Hyde Park Blvd., Niagara Falls, N. Y.

Heatovent—see Buckeye Blower Co.

Hoffman Specialty Co., 193 Grand St., Waterbury, Conn.

Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill. "Ilgair"

Ilgair—see Ilg Electric Ventilating Co.

Johnson Fan & Blower Co., 1319 W. Lake St., Chicago, Ill.

Nelson Corp., Herman, 1824 Third Ave., Moline, Ill. "Univent"

Peer-Vent—see Peerless Unit Ventilation Co.

Peerless Unit Ventilation Co., Skillman Ave. & Hulst St., Long Island City, N. Y. "Peer-Vent"

Sturtevant Co., B. F. (Hyde Park) Boston, Mass.

Thermal Units Co., W. Pershing Rd. & Loomis St., Chicago, Ill.

Univent—see Nelson Corp.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 105

Young Radiator Co., 709 Mead St., Racine, Wis.

HEATERS, Urn

Restaurant type Electric Heaters for Coffee and Water Urns

Chromalox—see Wiegand Co.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Hotpoint—see Edison General Electric Appliance Co.

L & H—see Lindemann & Hoverson Co.
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"
Marion—see Rutenber Electric Co.
Rutenber Electric Co., Marion, Ind. "Marion"
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

HEATERS, Wall Insert—

see **Heaters,** Stationary Radiant

HEATERS, Water—

see **Heaters,** Faucet Type
also **Heaters,** Water Circulation
also **Heaters,** Water Tank
also **Pots,** Electric Cooking

HEATERS, Water Circulation

Heaters designed to be installed in the Water Supply System Piping; for Heaters installed directly in the Storage Tank—see Heaters, Water Tank

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Aetna Electric Appliance Co., Dexter, Me. "Hot Vent"
AMCO—see Apex Mfg. Co.
Apex Mfg. Co., Landregan & Powell Sts., (Emeryville) Oakland, Cal. "AMCO"
Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"
Central Machine Co., 6320 E. Fort St., Detroit, Mich.
Chicago Automatic Electric Boiler Co., 1966 Southport Ave., Chicago, Ill.
Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio
Duralectric Corp., 6359 Pennsylvania Ave., Pittsburgh, Pa.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Electric Heating & Mfg. Co., 600 Harrison St., Seattle, Wash.
Everhot Electric & Mfg. Co., 116 Llewellyn St., Los Angeles, Cal.
Falls Equipment Co., 1313 Main St., Niagara Falls, N. Y.
Fichtner & Simon, 505 Gough St., San Francisco, Cal.
Finn Heater Co., 11335 Woodward Ave., Detroit, Mich.
Florence Stove Co., Kankakee, Ill.
Heaturn—see Wesix, Inc.
Hot Vent—see Aetna Electric Appliance Co.
Hotpoint—see Edison General Electric Appliance Co.
L & H—see Lindemann & Hoverson Co.
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"
Majestic Electric Appliance Co., 2401 Chestnut St., Philadelphia, Pa.
Red Spot Electric Co., 4312 S. Tacoma Way, Tacoma, Wash.
Sepco—see Automatic Electric Heater Co.
Southern Wesix Co., 617 N. Tenth St., Birmingham, Ala.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Strauss Mfg. Co., 904 Hadley St., Milwaukee, Wis.
Wesix, Inc., Rialto Bldg., San Francisco, Cal. "Heaturn"
Wessels & Sons Co., D. D., 1625 Euclid Ave., E. Detroit, Mich.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa.

HEATERS, Water Tank

Heaters designed to be installed directly in the Water Supply Tank; for Heaters to be installed in the Circulation Piping—see Heaters, Water Circulation

A & F—see Arthur & Fowler Co.
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
All-Ways-Hot Mfg. Co., Jasonville, Ind.
Arthur & Fowler Co., 373 Hawthorne Ave., Portland, Ore. "A & F"
Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"
Chromalox—see Wiegand Co.
Clark—see McGraw Electric Co.
Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio
Coppersert—see Electric Heating & Mfg. Co.
Domestic Appliance Co., 111 S. Sixth St., Louisville, Ky.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Electric Heating & Mfg. Co., 600 Harrison St., Seattle, Wash. "Coppersert"
Emerson Apparatus Co., 171 Tremont St., Melrose, Mass.
Everhot Electric & Mfg. Co., 116 Llewellyn St., Los Angeles, Cal.
Fichtner & Simon, 505 Gough St., San Francisco, Cal.
Fort Wayne Engineering & Mfg. Co., 1728 N. Harrison St., Fort Wayne, Ind.
Gas & Electric Heater Co., La Porte, Ind.
Hall Electric Heating Co., 1429 Walnut St., Philadelphia, Pa. "Hallmark"
Hallmark—see Hall Electric Heating Co.
Heaturn—see Wesix, Inc.
Hotpoint—see Edison General Electric Appliance Co.
Hoyt Heater Co., 4401 E. Tenth St., Oakland, Cal.
Hyd-Electro Heater Co., 5527 Woodward Ave., Detroit, Mich.
Hynes & Cox Electric Corp., 406 N. Pearl St., Albany, N. Y. "Red Crown"
Kant-Kool Electric Water Heater Co., 218 Blandina St., Utica, N. Y.
L & H—see Lindemann & Hoverson Co.
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"
McGraw Electric Co., Capitol Ave. at 13th St., Omaha, Neb. "Clark"
Midget Heater & Specialty Co., 3411 Pacific Ave., Tacoma, Wash.
Pemco—see Philadelphia Electrical Mfg. Co.
Philadelphia Electrical Mfg. Co., 1228 N. 31st St., Philadelphia, Pa. "Pemco"
Red Crown—see Hynes & Cox Electric Corp.
Sepco—see Automatic Electric Heater Co.
Southern Wesix Co., 617 N. Tenth St., Birmingham, Ala.
Strauss Mfg. Co., 904 Hadley St., Milwaukee, Wis.
Thermogray Co., Jefferson, Iowa
Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.
Voltex Generator Co., 400 Eighth St., Brooklyn, N. Y.
Warren Electric Appliance Co., 809 Lexington Ave., Warren, Pa., "WEACO"
WEACO—see Warren Electric Appliance Co.
Wesix, Inc., Rialto Bldg., San Francisco, Cal. "Heaturn"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **105**
Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

HEATING ELEMENTS—

see **Elements**
also **Resistors,** Unit
also **Wire,** Asbestos Core Resistance

HEATING PAD ELEMENT WIRE—

see **Wire,** Asbestos Core Resistance

HEATING PADS—

see **Pads,** Electric Heating

HEAVY DUTY RECEPTACLES—

see **Plugs and Receptacles,** Heavy Duty

HEDGE CLIPPERS—

see **Clippers,** Electric Hedge

HICKEYS, Conduit—

see **Benders,** Hand Conduit

HICKEYS, Fixture Hanging

Insulated and Uninsulated Fixture Hanging Hickeys; for Hickey Fixture Studs—see Studs, Fixture

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
C. S. T.—see Chicago Steel Tank Co.
Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."
Dunlap Co., John, Carnegie, Pa.
Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"
General Electric Co., Bridgeport, Conn.
Kwikon—see Fralick & Co.
Liberty Machine Co., Wauwatosa, Wis.
M. S. W. Mfg. Co., 1529 Niagara St., Buffalo, N. Y.
Mefco—see Flaherty Co.
Murlin Mfg. Co., 54th & Paschall Ave., Philadelphia, Pa.
Pittsburgh Valve & Fittings Co., Barberton, Ohio
Raco—see Roach-Appleton Mfg. Co.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

HIGH FREQUENCY CABLE—

see **Wire,** Covered Stranded Enameled

HIGH FREQUENCY GENERATORS—

see **Generators,** Electrotherapeutic

HIGH FREQUENCY TRANSFORMERS—

see **Transformers, Testing**

HIGH TENSION INSULATORS—

see **Insulators,** Glass

HIGH VOLTAGE PUSH BUTTONS—

see **Buttons,** High Voltage Push

HOIST MOTORS—

see **Motors,** A. C. Slip-Ring
also **Motors,** D. C. Compound
also **Motors,** D. C. Series

HOLDERS, Bit Extension—
see **Extensions,** Bit

HOLDERS, Brush
Commutator or Slip-Ring Brush Holders; for Carbon Brushes—see Brushes, Carbon and Graphite

BBB—see Becker Bros. Electrical Corp.
Baylis Co., 50 Nelson St., Bloomfield, N. J.
Becker Bros. Electrical Corp., 25 N. Jefferson St., Chicago, Ill. "BBB"
Boxill-Bruel Carbon Co., Columbia Park, Ohio
Electric Accessories Co., 310 York Ave., Philadelphia, Pa. "Universal"
Flower Mfg. Co., D. B., 1217 Spring Garden St., Philadelphia, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Universal—see Electric Accessories Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

HOLDERS, Card
Frames for Holding Name Cards or Directories

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Circle T—see Trumbull Electric Mfg. Co.
Grammes & Sons, L. F., Allentown, Pa.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.
Stromberg-Carlson Telephone Mfg. Co., 1060 University Ave., Rochester, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

HOLDERS, Christmas Tree—
see **Stands,** Illuminated Christmas Tree

HOLDERS, Color Screen—
see **Fixtures,** Show Window Lighting
also **Fixtures,** Showcase Lighting
also **Fixtures,** Stage Lighting

HOLDERS, Electric Iron Cord
Coiled Spring or Take-Up Reels for Supporting Slack in Attachment Cords of Pressing Irons—see also Reels, Extension Cord

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.
Myers Co., C. A., 6324 Woodlawn Ave., Chicago, Ill.

HOLDERS, Shade
Metal Fittings for Supporting Shades or Globes

A-A Electric Mfg. Co., 305 Center St., Bridgeport, Conn.
American Ring Co., 531 Bank St., Waterbury, Conn. "Ringco Brand"
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H," "Uno"
Art Metal Co., 1800 E. 38th St., Cleveland Ohio
Bander Co., J. B., 80 Beaver St., New York, N. Y.
Benco—see Benjamin Electric Mfg. Co.
Benjamin Electric Mfg. Co., Des Plaines, Ill. "Benco"
Cataloged on pages.....106-108
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page.....58
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Dunlap Co., John, Carnegie, Pa.
Fullerton Electric Co., 20 W. 17th St., New York, N. Y.
General Electric Co., Bridgeport, Conn.
Cataloged on page.....63
H & H—see Arrow-Hart & Hegeman Electric Co.
Hanger Electric Mfg. Co.. 105 S. Dearborn St., Chicago, Ill.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Jiffy—see Westinghouse Electric & Mfg Co.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station. Syracuse, N. Y. "P & S"
Pittsburgh Reflector Co., 304 Ross St., Pittsburgh, Pa.,
Cataloged on page.....113
Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.
Ringco Brand—see American Ring Co.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Sears, Henry D., 80 Boylston St., Boston Mass. (Sole Distributors for Webel Electric Co., Schenectady, N. Y.)
Steele & Johnson Mfg. Co., 779 S. Main St., Waterbury, Conn.
Timberlake & Sons, J. B., Jackson, Mich.
Uno—see Arrow-Hart & Hegeman Electric Co.
Wameco—see Waterbury Metal Wares Co
Waterbury Metal Wares Co., Jackson St. Waterbury, Conn. "Wameco"
Weber Electric Co.—see Sears, Henry D
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Jiffy"

HOLE SAWS—
see **Cutters,** Steel Panel and Box

HOLLOW CONDUCTOR CABLE—
see **Wire,** Bare Copper or Brass

HOLSTERS, Tool—
see **Belts,** Lineman's

HOODS, Color
Covers to fit over the Tips of Incandescent Lamps for Diffusing or Coloring the Light

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Betts, Inc., James H., 1391 Sedgwick Ave., New York, N. Y. "Col-O-Cap"
Betts & Betts Corp., 645 W. 43d St., New York, N. Y.
Col-O-Cap—see Betts, Inc.
Frink Corp., 369 Lexington Ave., New York, N. Y.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page.....117
Laco-Philips Co., 131 Hudson St., New York, N. Y.
Reco—see Reynolds Electric Co.
Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"
Cataloged on page.....120

HOOKS, Guy
Galvanized Iron Hooks made of Half Round Stock with One or More Screw Holes

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio

HORNS, Signal
Signaling Devices, Motor or Vibrating Armature Types; for Large Motor Operated Sirens—see Sirens, Electric

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page.....110
Faraday—see Stanley & Patterson
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
National Scale Corp., 9 Montgomery St., Chicopee Falls, Mass.
Russell Electric Co., 30 Rowan St., Danbury, Conn.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

HORSEHIDE GLOVES—
see **Gloves,** Lineman's Leather

HOSPITAL SIGNAL SYSTEMS—
see **Annunciators,** Drop and Lamp
also **Signals,** Hospital Calling

HOT PACKS—
see **Pads,** Electric Heating

HOT PLATES—
see **Plates,** Electric Hot

HOT WATER BOTTLE HEATERS—
see **Heaters,** Hot Water Bottle

HOT WATER KETTLES—
see **Kettles,** Tea

HOUSE BRACKETS—
see **Brackets,** Metal Insulator

HOUSEHOLD RANGES—
see **Ranges,** Electric Household

HOUSELINE—
see **Twine,** Marline

HOWLERS, Industrial—
see **Horns,** Signal

HUMIDIFIERS, Electric Cigar
Small Water Heaters or Fans for Installing in Cigar Showcases

Drake Mfg. Co., 2883 Water St., Milwaukee, Wis.

HUMIDIFIERS, Portable Electric Room
Residential Appliance Type; for Commercial Cigar Humidifier—see Humidifiers, Electric Cigar

American Radiator Co., 40 W. 40th St., New York, N. Y.
Arco—see American Radiator Co.
Braemer—see Universal Humidifier Corp.
Universal Humidifier Corp., 11th & Market Sts., Philadelphia, Pa. "Braemer"

HUSKS, Socket—
see **Canopies,** Fixture

HYDRO-ELECTRIC PLANTS—
see **Plants,** Farm Light and Power

HYDROMETERS, Battery Testing

Syringe and Float Types for Testing Specific Gravity of Storage Batteries

Acid Supply Utilities, 316 W. 24th St., Chicago, Il.. "Smash Pruf"

Ala Mfg. Co., 401 S. Sangamon St., Chicago, Ill.

American Thermo-Ware Co., 16 Warren St., New York, N. Y. "Indestructo"

Arcoe Thermometer Co., 290 Fifth Ave., New York, N. Y.

Ayanbee—see Scranton Glass Instrument Co.

Battery Equipment & Supply Co., 7530 Greenwood Ave., Chicago, Ill. "Besco"

Beck & Co., Oscar, 280 Maujer St., Brooklyn, N. Y.

Besco—see Battery Equipment & Supply Co.

Chaslyn Co., 4611 Ravenswood Ave., Chicago, Ill. "S O S"

DRIP-PRUF—see Hafner Mfg. Co.

Edelmann & Co., E., 2356 Logan Blvd., Chicago, Ill.

Esserman, Joseph, 243 W. 55th St., New York, N. Y. "Luxor" "Veribest"

Freas Glass Works, Francis L., Conshohocken, Pa.

Greiner Co., Emil, 55 Vandam St., New York, N. Y.

Griebel Instrument Co., 42 River St., Carbondale, Pa.

Hafner Mfg. Co., 3140 Carroll Ave., Chicago, Ill. "DRIP-PRUF"

Hamco—see Hamilton Glass Instrument Co.

Hamilton Glass Instrument Co., Alex., Conshohocken, Pa. "Hamco"

In-A-Cap Hydrometer Co., 1343 W. 14th Pl., Chicago, Ill.

Indestructo—see American Thermo-Ware Co.

Kessling Thermometer Co., E., 682 Jamaica Ave., Brooklyn, N. Y.

Luxor—see Esserman, Joseph

Moeller Instrument Co., 261 Sumpter St., Brooklyn, N. Y.

Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa "Princo"

Princo—see Precision Thermometer & Instrument Co.

S O S—see Chaslyn Co.

Scientific Instrument Co., 531 W. Larned St., Detroit, Mich.

Scranton Glass Instrument Co., 939 Capouse Ave., Scranton, Pa. "Ayanbee"

Smash Pruf—see Acid Supply Utilities

Testrite Instrument Co., 108 E. 16th St., New York, N. Y.

Veribest—see Esserman, Joseph

Victor Instrument Mfg. Co., 49 W. 63d St., New York, N. Y.

Wagner & Son, Carl H., 1944 N. Albany Ave., Chicago, Ill.

ICE BOXES, Electric—

see **Refrigerators,** Electric Household

ICE CREAM FREEZERS—

see **Freezers,** Electric Household Ice Cream
also **Machines,** Kitchen Appliance Operating

IMMERSION HEATERS—

see **Heaters,** Electric Immersion

IMPREGNATING MACHINES—

see **Machines,** Coil Impregnating

INCANDESCENT LAMPS—

see **Lamps,** Incandescent

INDICATING DEMAND METERS—

see **Meters,** Demand

INDICATING PYROMETERS—

see **Pyrometers,** Electric

INDICATING RECEPTACLES—

see **Receptacles,** Indicating

INDICATING SWITCHES—

see **Switches,** Flush Push
also **Switches,** Flush Toggle
also **Switches,** Rotary Flush
also **Switches,** Series Multiple Snap
also **Switches,** Surface Snap

INDICATORS, Potential—

see **Detectors,** Voltage

INDICATORS, Speed

see also Tachometers Covering only Companies Cataloging this Product

Misener Mfg. Co., 326 E. Washington St., Syracuse, N. Y.
Cataloged on page 140

INDICATORS, Voltage—

see **Detectors,** Voltage

INDIRECT LIGHTING FIXTURES—

see **Fixtures,** Industrial Indoor
also **Fixtures,** Public Building Indoor
also **Fixtures,** Public Building Outdoor
also **Fixtures,** Residential Indoor

INDUCED DRAFT FANS—

see **Blowers and Fans,** Centrifugal

INDUCTANCES, Standard Unit

Standard Inductances for Laboratory Use

Cambridge Instrument Co., Grand Central Terminal, New York, N. Y.

Central Scientific Co., 460 E. Ohio St., Chicago, Ill.

General Radio Co., 30 State St., Cambridge, Mass.

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

Polymet Mfg. Corp., 829 E. 134th St., New York, N. Y.

Queen—see Gray Instrument Co.

Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.

INDUCTION FREQUENCY METERS—

see **Meters,** Frequency

INDUCTION FURNACES—

see **Furnaces,** Electric Induction

INDUSTRIAL OZONATORS—

see **Generators,** Industrial Ozone

INHALATORS, Medicinal—

see **Vaporizers,** Electric

INSERT PINS—

see **Stampings,** Metal

INSERTS, Concrete

Covering only Companies Cataloging this Product

Ackerman-Johnson Co., 625 W. Jackson Blvd., Chicago, Ill.
Cataloged on page 147

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 99

INSTRUMENT SWITCHES—

see **Plugs and Receptacles,** Pin
also **Plugs and Receptacles,** Voltmeter

INSTRUMENT TRANSFORMERS—

see **Transformers,** Instrument

INSTRUMENTS, Cell Testing—

see **Testers,** Portable Battery Cell

INSTRUMENTS, Electrical Testing—

see **Sets,** Electrical Testing

INSTRUMENTS, Meter Testing

Phase Shifters Impulse Relays, Current, Potential and Induction Regulators; for Phantom Loads—see Loads, Phantom

Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa.

Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"

Elpeco—see Electric Power Equipment Corp.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.

States Co., 17 New Park Ave., Hartford, Conn.

Superior Switchboard & Devices Co., 424 Schroyer Ave., S. W., Canton, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

INSTRUMENTS, Relay Testing—

see **Instruments,** Meter Testing

INSULATED BINDING POSTS—

see **Posts,** Binding

INSULATED CONNECTORS—

see **Connectors,** Solderless Insulated

INSULATED PLIERS—

see **Pliers,** Lineman's

INSULATED SCREWDRIVERS—

ee **Screwdrivers,** Non-Electric

INSULATED SCREWEYES—

see **Screweyes,** Insulated

INSULATED TREE TRIMMERS—

see **Tools,** Pruning

INSULATING BEADS—

see **Beads,** Insulating

INSULATING COMPOUNDS—

see **Compounds,** Insulating

INSULATING FABRICS—

see **Fabrics,** Varnished or Oiled

INSULATING LINKS—

see **Fittings,** Pull Chain

INSULATING MACHINES—

see **Machines,** Wire Braiding and Taping
also **Machines,** Wire Insulating

INSULATING PAINT—

see **Paint,** Insulating

INSULATING TAPE—

see **Tape,** Friction
also **Tape,** Rubber

INSULATING TRANSFORMERS—
see **Transformers**, Constant Current

INSULATING VARNISH—
see **Varnish**, Insulating

INSULATION CHARGE MEASURING MACHINES—
see **Machines**, Insulation Charge Measuring

INSULATION, Hard Rubber—
see **Rubber**, Hard

INSULATION, Laminated Phenolic—
see **Insulation**, Synthetic

INSULATION, Lava
Producers of Lava Insulation upon Blueprint Specifications

American Lava Corp., 1419 William St., Chattanooga, Tenn.
Cataloged on page 152

Kirchberger & Co., M., 1425 37th St., Brooklyn, N. Y. "Lavarock"

Lavarock—see Kirchberger & Co.

Lavite—see Steward Mfg. Co.

Steward Mfg. Co., D. M., E. 36th St., Chattanooga, Tenn. "Lavite"

INSULATION, Molders of Composition
Contract Companies having Facilities for Molding Composition; for Molders of Porcelain—see Porcelain, Molders of

Aico—see American Insulator Corp.

Allen & Hills, Auburn, N. Y.

American Insulator Corp., New Freedom, Pa. "Aico" "Amerine"

Amerine—see American Insulator Corp.

Auburn Button Works, 48 Canoga St., Auburn, N. Y.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Boonton Molding Co., Myrtle Ave., Boonton, N. J.

Boonton Rubber Mfg. Co., Fanny Bridge Rd., Boonton, N. J.

C-H—see Cutler-Hammer

Cetec—see Monowatt Electric Corp.

Chicago Moulded Products Co., 2149 Walnut St., Chicago, Ill.

Cincinnati Molding Co., 2037 Florence Ave., Cincinnati, Ohio

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn.

Compo-site, Inc., 215 Astor St., Newark, N. J.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diemoulding Production Co., Rasbach St., Canastota, N. Y.

Electrose—see Insulation Mfg. Co.

Garfield Mfg. Co., Garfield, N. J. "Gummon" "Hemit" "Tegit"

Gordon Co., L. S., 1800 Montrose Ave., Chicago, Ill.

Gummon—see Garfield Mfg. Co.

Hemit—see Garfield Mfg. Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

I. C. A.—see Insuline Corp.

Insulation Mfg. Co., New York Ave. & Herkimer St., Brooklyn, N. Y. "Electrose"

Insulation Products Co., First & Market Sts., Pittsburgh, Pa.

Insuline Corp. of America, 80 Cortlandt St., New York, N. Y. " I. C. A."

International Insulating Corp., Olive St., Elyria, Ohio

K-K—see Kurz-Kasch Co.

Karolith Corp., 2125 44th Rd., Long Island City, N. Y.

Kurz-Kasch Co., S. Broadway, Dayton, Ohio. "K-K"

Lacanite—see Scranton Button Co.

Mack Molding Co., Little Falls, N. J.

Marlanite—see Sun Rubber Co.

Meghomo—see Waterbury Button & Moulding Co.

Monolite—see Monowatt Electric Corp.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y. "Cetec" "Monolite"
Cataloged on page 160

Nagel Electric Co., W. G., 511 Hamilton St., Toledo, Ohio

Niagara Insul-Bake Specialty Co., 483 Delaware Ave., Albany, N. Y.

Norton Laboratories, 1025 Mill St., Lockport, N. Y.

Parkin Mfg. Co., Grand Ave., San Rafael, Cal.

Pruven Composition Products Corp., Milford, Conn. "Pruvenite"

Pruvenite—see Pruven Composition Products Corp.

Recto Mfg. Co., 23 W. Third St., Cincinnati, Ohio

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Ridgely Trimmer Co., Springfield, Ohio

Schneider Brothers, 314 N. Sheldon St., Chicago, Ill.

Scranton Button Co., Scranton, Pa. "Lacanite"

Shaw Insulator Co., 150 Coit St., Irvington, N. J.

Siemon Co., State St. & Baum Blvd., Bridgeport, Conn.

Specialty Insulation Mfg. Co., Hoosick Falls, N. Y.

Splitdorf-Bethlehem Electrical Co., 392 High St., Newark, N. J.

Sun Rubber Co., Barberton, Ohio "Marlanite"

Tegit—see Garfield Mfg Co.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn. "Meghomo"
Cataloged on page 161

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

INSULATION, Molders of Porcelain—
see **Porcelain**, Molders of

INSULATION MOLDING MACHINES—
see **Machines**, Plastic Molding

INSULATION, Phenolic—
see **Insulation**, Synthetic

INSULATION, Quartz
Producers of Quartz Insulation upon Blueprints or Specifications

Thermal Syndicate, 58 Schenectady St., Brooklyn, N. Y. "Vitreosil"

Vitreosil—see Thermal Syndicate

INSULATION, Refractory—
see **Cores**, Refractory

INSULATION, Rubber—
see **Rubber**, Hard

INSULATION STRIPPERS—
see **Machines**, Wire End Stripping
also **Tools**, Wire Stripping

INSULATION, Synthetic
Sheet, Rod or Tube; for Hard Rubber—see Rubber, Hard; for Vulcanized Fibre—see Fibre, Vulcanized; for Laminated Phenolic Gears—see Gears and Pinions, Fibre and Fabric

Bakelite Corp., 247 Park Ave., New York, N. Y. "Condensite" "Redmanol"

Celeron—see Continental-Diamond Fibre Co.

Condensite—see Bakelite Corp.

Continental-Diamond Fibre Co., Newark, Del. "Celeron" "Dilecto"
Cataloged on page 156

Dilecto—see Continental-Diamond Fibre Co.

Erinoid Co. of America, 15 Park Row, New York, N. Y.

Federal Insulating Corp., 380 S. Broadway, Yonkers, N. Y. "Fedrelin"

Fedrelin—see Federal Insulating Corp.

Fibroc Insulation Co., 473 Lincoln Ave., Valparaiso, Ind.

Formica Insulation Co., 4662 Spring Grove Ave., Cincinnati, Ohio
Cataloged on page 157

General Electric Co., 1 River Rd., Schenectady, N. Y.

Insulation Products Co., First & Market Sts., Pittsburgh, Pa.

Karolith Corp., 2125 44th Rd., Long Island City, N. Y.

Micarta — see Westinghouse Electric & Mfg. Co.

National Vulcanized Fibre Co., Wilmington, Del. "Phenolite"
Cataloged on page 158

Panelyte Corp., Trenton, N. J.

Phenolite—see National Vulcanized Fibre Co.

Redmanol—see Bakelite Corp.

Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.

Synthane Corp., Oaks, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Micarta"
Cataloged on page 101

INSULATION TESTERS—
see **Sets**, Insulation Testing

INSULATOR BRACKETS—
see **Brackets**, Metal Insulator
also **Brackets**, Wood Insulator

INSULATOR CLEVISES—
see **Clevises**, Insulator

INSULATOR PINS—
see **Pins**, Metal Insulator
also **Pins**, Wood Insulator

INSULATOR SUPPORTS—
see **Supports**, Adjustable Insulator

INSULATORS, Glass
Glass, Pin or Spool Type Insulators

Corning Glass Works, Corning, N. Y "Pyrex"

Hemingray Glass Co., Macedonia Ave., Muncie, Ind.

McLaughlin Glass Co., 1900 E. 52d St. Los Angeles, Cal.

Pyrex—see Corning Glass Works

United States Glass Co., S. Ninth & Bingham Sts., Pittsburgh, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

INSULATORS, Radio Antenna
Covering only Companies Cataloging this Product

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. "Little Joe"
Cataloged on page 61

Little Joe—see Circle F Mfg. Co.

INSULATORS, Porcelain Bead—
see **Beads**, Insulating

INSULATORS, Rubber—
see **Rubber,** Hard

INSULATORS, Spool Type
Porcelain or Composition Spool Insulators

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.
Hartford Faience Co., Hamilton St., Hartford, Conn.
Illinois Electric Porcelain Co., Macomb, Ill.
L-F Mfg. Co., 428 Hoboken Ave.. Jersey City, N. J.
Porcelain Products, Inc., Findlay, Ohio
Thomas & Sons Co., R., Lisbon, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

INSULATORS, Strain
Porcelain or Composition Strain Insulators

Colonial Insulator Co., 943 Grant St. Akron, Ohio
Cook Porcelain Insulator Corp., Cambridge, Ohio
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Illinois Electric Porcelain Co.. Macomb, Ill.
Lapp Insulator Co., 32 Gilbert St., Le Roy, N. Y.
Locke Insulator Corp., S. Charles & Cromwell Sts., Baltimore, Md.
O-B—see Ohio Brass Co.
Ohio Brass Co., Mansfield, Ohio. "O-B"
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Pinco—see Porcelain Insulator Corp.
Porcelain Insulator Corp., Lima, N. Y. "Pinco"
Porcelain Products, Inc., Findlay, Ohio
Square D Co., 6060 Rivard St., Detroit, Mich.
Thomas & Sons Co., R., Lisbon, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

INSULATORS, Tree
Insulators mounted on Forked Bolts and Lag Screws

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.
Cutter, Scott C., Oswego, Ill.
Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio
High Tension Electrical Specialty Co., 500 Washington St., Abington, Mass.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
L-F Mfg. Co., 428 Hoboken Ave., Jersey City, N. J.
Line Material Co., South Milwaukee, Wis.
Pearl Co., Wm. H., Transportation Bldg., Indianapolis, Ind.
Porcelain Products, Inc., Findlay, Ohio
St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

INTERFERENCE FILTERS—
see **Filters,** Radio Interference

IRON CASTINGS—
see **Castings,** Gray Iron
also **Castings,** Malleable Iron

IRON CORD HOLDERS—
see **Holders,** Electric Iron Cord

IRON ELEMENTS—
see **Elements,** Flat Iron

IRON LINE WIRE—
see **Wire,** Iron Line

IRON STANDS, Regulating—
see **Stands,** Heat Regulating Iron

IRONERS, Electric Household
Electrically Heated and Motor Driven Ironing Machines for Domestic use

American Ironing Machine Co., 100 E. Ohio St., Chicago, Ill. "Simplex"
Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.
Conlin Corp., 19th St. & 52d Ave., Cicero, Ill.
Dexter Co., 408 Ninth St., Fairfield, Iowa. "Rainbow"
Easy—see Syracuse Washing Machine Corp.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Gordon Machine Co.. 1638 N. Paulina St.. Chicago, Ill.
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.
Hoe Corp., Poughkeepsie, N. Y.
Horton Mfg. Co., 730 Fry St., Fort Wayne, Ind.
Hurley Machine Co., 22d St. & 54th Ave., Chicago, Ill. "Thor"
Ironrite Ironer Co., 38 Piquette Ave., Detroit, Mich.
Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal. "Rotarex"
Prachar Mfg. Co., 3205 Perkins Ave., Cleveland, Ohio "Wonder"
Rainbow—see Dexter Co.
Rotarex—see Johnson Washer Co.
Savage Arms Corp., 71 Savage Ave., Utica, N. Y.
Simplex—see American Ironing Machine Co.
Smith Home Appliances, Inc., 203 Solar St., Syracuse, N. Y.
Syracuse Washing Machine Corp., Spencer & Solar Sts., Syracuse, N. Y. "Easy"
Thor—see Hurley Machine Co.
Vulcan Mfg. Co., 1511 Cypress St., Kansas City, Mo.
Wonder—see Prachar Mfg. Co.
Wonder Ironer Sales, Inc., 4500 Euclid Ave., Cleveland, Ohio
York Ironer & Appliance Co., Schmitt Bldg., Beardstown, Ill.

IRONING MACHINES—
see **Ironers,** Electric Household

IRONS, Branding—
see **Branders,** Electrically Heated

IRONS, Climbing—
see **Climbers,** Wood Pole

IRONS, Curling—
see **Irons,** Electric Curling

IRONS, Electric Curling
Curling and Waving Irons equipped with a Heating Element

Advance Household Appliances, Inc., Wapakoneta, Ohio
Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"
Betsy Ross—see Central Flatiron Mfg. Co.
Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"
Coolee Mfg. Co., Sandusky, Ohio. "O'Kay"
De Luxe—see Edison General Electric Appliance Co.
Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.
Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.
Duo Wave—see Samson-United Corp.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "De Luxe" "Hotpoint"
Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"
Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.
Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.
Hotpoint—see Edison General Electric
Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-a-Hot"
L & H—see Lindemann & Hoverson Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Reliance" "Thermax" "Universal"
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"
Manning, Bowman & Co., Meriden, Conn.
Marcelwaver Co., 135 W. Central Pkwy., Cincinnati, Ohio
National Electric Appliance Co., W. 83d St. & Madison Ave., Cleveland, Ohio
National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"
Neptune Mfg. Co., Masontown, Pa.
Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.
O'Kay—see Coolee Mfg. Co.
Op-Al Electric & Mfg. Co., 1057 W. 30th St., Indianapolis, Ind.
Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.
Proctor & Schwartz Electric Co., Seventh St. & Tabor Rd., Philadelphia, Pa.
Reliance—see Landers, Frary & Clark
Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"
Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio
Royal Rochester—see Robeson Rochester Corp.
Samson-United Corp., 8 Jones St., Rochester, N. Y. "Duo-Wave"
Standard Die & Specialty Co., 1923 W. Austin Ave., Chicago, Ill.
Star-Rite—see Fitzgerald Mfg. Co.
Super Lectric — see Superior Electric Products Corp.
Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"
Thermax—see Landers, Frary & Clark
Thermo-a-Hot—see Knapp-Monarch Co.
Torrid—see Beardsley & Wolcott Mfg. Co.
Universal—see Landers, Frary & Clark
Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo.
Ward Mfg. Co., 937 Wellington Ave., Chicago, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.
White Cross—see National Stamping & Electric Works

IRONS, Electric Household

Single Heat Flat Irons ranging in weight from 3 to 8 pounds; for Heavy Irons—see Irons, Electric Laundry—also Irons, Electric Tailor's

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Advance Household Appliances, Inc., Wapakoneta, Ohio

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bee-Vac—see Birtman Electric Co.

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Birtman Electric Co., 4140 Fullerton Ave., Chicago, Ill. "Bee-Vac"

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill. "Princess" "Sunbeam"

DeJur-Amsco Corp., 418 Broome St., New York, N. Y.

Delta Products Mfg. Co., Bryan, Ohio

Domanco—see Dover Mfg. Co.

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Dover Mfg. Co., Dover, Ohio "Domanco"

Dowd-Rodgers Co., 95 Madison Ave., New York, N. Y.

E-Z—see Made-Rite Mfg. Co.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Eldec Co., 501 Fifth Ave., New York, N. Y.

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Empire—see Metal Ware Corp.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Western Electric Co., New York, N. Y.)

Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.

Handy—see Chicago Electric Mfg. Co.

Hotpoint—see Edison General Electric Appliance Co.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Monarch"

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Reliance" "Thermax" "Universal"

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Lucas Electric Laboratories, Marengo, Ill.

Made-Rite Mfg. Co., Sandusky, Ohio "E-Z"

Manning, Bowman & Co., Meriden, Conn.

Marion—see Rutenber Electric Co.

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

Monarch—see Knapp-Monarch Co.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Nineteen Hundred Corp., 215 Clinton St., Binghamton, N. Y.

Nocord Electric Appliance Co., 549 W. Randolph St., Chicago, Ill.

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Princess—see Chicago Flexible Shaft Co.

Proctor & Schwartz Electric Co., Seventh St. & Tabor Rd., Philadelphia, Pa.

Queen Quality—see Watlow Electric Mfg. Co.

Reimers Electric Appliance Co., 961 Angelique St., North Bergen, N. J.

Reliance—see Landers, Frary & Clark

Rimco—see Rock Island Mfg. Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Royal Rochester—see Robeson Rochester Corp.

Rutenber Electric Co., Marion, Ind. "Marion"

Star-Rite—see Fitzgerald Mfg. Co.

Sunbeam—see Chicago Flexible Shaft Co.

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Thermax—see Landers, Frary & Clark

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Waage, A. H., 112 Chambers St., New York, N. Y.

Wapak Hollow Ware Co., Wapakoneta, Ohio

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo. "Queen Quality"

Western Electric Co.—see Graybar Electric Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **102**

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

White Cross—see National Stamping & Electric Works

IRONS, Electric Laundry

Irons designed for Commercial Laundries ranging in weight from 8 to 15 pounds; for Lighter Irons—see Irons, Electric Household; for Heavier Irons—see Irons, Electric Tailor's

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

Dover Mfg. Co., Dover, Ohio

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Hotpoint—see Edison General Electric Appliance Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Reimers Electric Appliance Co., 961 Angelique St., North Bergen, N. J.

Universal—see Landers, Frary & Clark

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

IRONS, Electric Soldering

Soldering Irons equipped with an Electric Heating Element; for Non-Electric Soldering Irons—see Coppers, Soldering

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Adroit—see Adrola Corp.

Adrola Corp., Adrola Bldg., Port Jefferson, N. Y. "Adroit"

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

B-D—see Bleadon-Dun Co.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Beckwith Machine Co., 402 Chestnut St., Ravenna, Ohio "Sta-Warm"

Betsy Ross—see Central Flatiron Mfg. Co.

Bleadon-Dun Co., 2300 Warren Ave., Chicago, Ill. "B-D"

Brach Mfg. Corp., L. S., 129 Sussex Ave., Newark, N. J.

Burning Brand Co., 2522 Congress St., Chicago, Ill. "Ever-Hot"

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chapman Machine Co., Terryville, Conn. "Green Label"

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Dover Mfg. Co., Dover, Ohio

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill. "Junior"

Duratron Products Corp., 409 38th St., Union City, N. J. "Duro" "Permo"

Duro—see Duratron Products Corp.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Electric Soldering Iron Co., 139 W. 17th St., New York, N. Y. "Esico"

Esico—see Electric Soldering Iron Co.

Ever-Hot—see Burning Brand Co.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Green Label—see Chapman Machine Co.

Hansen Electric Mfg. Co., 4540 Ravenswood Ave., Chicago, Ill.

Hotpoint—see Edison General Electric Appliance Co.

Illinois Stamping & Mfg. Co., 220 N. Jefferson St., Chicago, Ill.

Junior—see Drake Electric Works

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Reliance" "Universal"

Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.

Pennsylvania Instrument Co., 51 N. Tenth St., Philadelphia, Pa.

Permo—see Duratron Products Corp.

Queen Quality—see Watlow Electric Mfg. Co.

Reliance—see Landers, Frary & Clark

Samson-United Corp., 8 Jones St., Rochester, N. Y.

Soderwand—see Suttle Equipment Co.

Splitdorf-Bethlehem Electrical Co., 392 High St., Newark, N. J.

Sta-Warm—see Beckwith Machine Co.

Super Lectric—see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Suttle Equipment Co., Lawrenceville, Ill. "Soderwand"

Torrid—see Beardsley & Wolcott Mfg. Co.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Unity Mfg. Co., 2017 S. Michigan Ave., Chicago, Ill.

Universal—see Landers, Frary & Clark

Varick Electric Mfg. Co., 38 E. 21st St. New York, N. Y.

Vulcan Electric Heating Co., 225 Varick St., New York, N. Y.

Waage, A. H., 112 Chambers St., New York, N. Y.

Ward Mfg. Co., 937 Wellington Ave., Chicago, Ill.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo. "Queen Quality"

Wellmade Electric Mfg. Co., Torrington, Conn.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

IRONS, Electric Tailor's

Irons designed for Heavy Pressing, weighing more than 15 pounds; for Lighter Irons — see Irons, Electric Household—also Irons, Electric Laundry

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

DeJur-Amsco Corp., 418 Broome St., New York, N. Y.

Dover Mfg. Co., Dover, Ohio

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Hotpoint—see Edison General Electric Appliance Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

New York Pressing Iron Co., 62 E. Eighth St., New York, N. Y.

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Reimers Electric Appliance Co., 961 Angelique St., North Bergen, N. J.

Universal—see Landers, Frary & Clark

Waage, A. H., 112 Chambers St., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

IRONS, Electric Traveler's

Pressing Irons weighing about 3 pounds; for Household Irons—see Irons, Electric Household; for Heavy Commercial Irons—see Irons, Electric Laundry

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Advance Household Appliances, Inc., Wapakoneta, Ohio

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill. "Princess" "Sunbeam"

Dover Mfg. Co., Dover, Ohio

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Hotpoint—see Edison General Electric Appliance Co.

International—see Liberty Electric Co.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Monarch"

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Lucas Electric Laboratories, Marengo, Ill.

Manning, Bowman & Co., Meriden, Conn.

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

Monarch—see Knapp-Monarch Co.

Princess—see Chicago Flexible Shaft Co.

Rimco—see Rock Island Mfg. Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Royal Rochester—see Robeson Rochester Corp.

Sunbeam—see Chicago Flexible Shaft Co.

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

IRONS, Flat—

see **Irons,** Electric Household

IRONS, Waffle

Irons specially designed for Cooking Waffles

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Advance Household Appliances, Inc., Wapakoneta, Ohio

All Rite Co., Morgan & First Sts., Rushville, Ind.

Armstrong Electric & Mfg. Corp., 1018 Seventh St., Huntington, W. Va. "Old South"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Empire—see Metal Ware Corp.

Estate Stove Co., Hamilton, Ohio

Everhot—see Swartzbaugh Mfg. Co.

Excelo—see Economy Aluminum Co.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.

Griswold Mfg. Co., 1001 W. 12th St., Erie, Pa.

Handy—see Chicago Electric Mfg. Co.

Hold-Heet—see Russell Electric Co.

Hotpoint—see Edison General Electric Appliance Co.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-a-Hot"

Kruesheld Electric & Mfg. Co., 1133 Broadway, New York, N. Y.

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Thermax" "Universal"

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Majestic Electric Appliance Co., 2401 Chestnut St., Philadelphia, Pa.

Manning, Bowman & Co., Meriden, Conn. "Meteor"

Marion—see Rutenber Electric Co.

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"

Meteor—see Manning, Bowman & Co.

Mid-City Mfg. Co., 1228 S. Western Ave., Chicago, Ill.

National Electric Appliance Co., W. 83d St. & Madison Ave., Cleveland, Ohio

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Old South—see Armstrong Electric & Mfg. Corp.

Proctor & Schwartz Electric Co., Seventh St. & Tabor Rd., Philadelphia, Pa.

Rimco—see Rock Island Mfg. Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Rutenber Electric Co., Marion, Ind. "Marion"

Samson-United Corp., 8 Jones St., Rochester, N. Y.

Schoenberg, Milton H., 604 Mission St., San Francisco, Cal.

Star-Rite—see Fitzgerald Mfg. Co.

Super Lectric — see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"

Thermax—see Landers, Frary & Clark

Thermo-a-Hot—see Knapp-Monarch Co.

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo.

Waage, A. H., 112 Chambers St., New York, N. Y.

Wapak Hollow Ware Co., Wapakoneta, Ohio

Waters Genter Co., 217 N. Second St., Minneapolis, Minn.

Wells Mfg. Co., 673 Folsom St., San Francisco, Cal.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **102**

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

White Cross—see National Stamping & Electric Works

JACKS, Motor Driven Pump

Complete Electric Pump Drive Units

Cullman Wheel Co., 1344 Altgeld St., Chicago, Ill.

JACKS, Wall Receptacle

For use in Wiring Building for Radio Service

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Carter Radio Co., 300 S. Racine Ave., Chicago, Ill.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Yaxley Mfg. Co., 1528 W. Adams St., Chicago, Ill.

JACKS and PLUGS, Transfer—

see **Plugs and Receptacles,** Voltmeter

JAPANNING OVENS—

see **Ovens,** Commercial Industrial

JARS, Battery—

see **Jars,** Glass Battery
also **Rubber,** Hard

JARS, Glass Battery

Cylindrical or Square Glass Jars and Cores for Primary or Secondary Batteries

Corning Glass Works, Corning, N. Y.

Gayner Glass Works, Salem, N. J.

Hazel-Atlas Glass Co., Wheeling, W. Va.

McKee Glass Co., Jeannette, Pa.

Macbeth-Evans Glass Co., Charleroi, Pa.

United States Glass Co., S. Ninth & Bingham Sts., Pittsburgh, Pa.

JEWEL BEARINGS—
see **Bearings,** Jewel

JEWELS, Switchboard—
see **Bullseyes,** Glass

JOINTS, Cable—
see **Sleeves,** Cable Splicing

JOIST BORING MACHINES—
see **Machines,** Joist Boring

JUNCTION BOXES—
see **Boxes,** Pull

JUTE—
see **Yarn,** Jute

JOBBERS, Electrical Supply
Covering only Jobbers Cataloging in this Issue

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.
Cataloged on page 87

KEROSENE FURNACES—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

KEROSENE TORCHES—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

KETTLES, Tea
Electrically heated Kettles for Boiling Water and for Steeping Tea

Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Excelo—see Economy Aluminum Co.
Hotpoint—see Edison General Electric Appliance Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Manning, Bowman & Co., Meriden, Conn.
Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.
Universal—see Landers, Frary & Clark
West Bend Aluminum Co., 92 Island Ave., West Bend, Wis.
White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

KETTLES, Water—
see **Kettles,** Tea

KEY CUTTING MACHINES—
see **Machines,** Electric Key Cutting

KEY OPERATED SWITCHES—
see **Switches,** Key Operated

KILOVOLT-AMPERE METERS—
see **Meters,** Kilovolt-Ampere

KITCHEN POWER UNITS—
see **Machines,** Kitchen Appliance Operating

KITS, Automobile Lamp
Covering only Companies Cataloging this Product

Eveready—see National Carbon Co.
National Carbon Co., 30 E. 42d St., New York, N. Y. "Eveready"
Cataloged on page 133

KNIFE HEATERS—
see **Heaters,** Tool

KNIFE SWITCHES—
see **Switches,** Standard Knife
see also **Switches,** Baby Knife
also **Switches,** Fused Entrance
also **Switches,** Fused Blade Knife
also **Switches,** Panel
also **Switches,** Quick Break Knife
also **Switches,** Safety

KNIVES, Cable Sheath Splitting
Special Knives for use in Splitting and Stripping Lead Cable; for Lineman's Knives—see Knives, Wire Stripping

Klein & Sons, Mathias, 3200 Belmont Ave., Chicago. Ill.
Village Blacksmith Folks, Watertown, Wis.

KNIVES, Lineman's—
see **Knives,** Wire Stripping

KNIVES, Wire Stripping
Heavy Pocket Knives with Special Blades for Skinning Insulation; for Cable Stripping Knives—see Knives, Cable Sheath Splitting; for Wire Stripping Tools—see Tools, Wire Stripping

Car-Van Steel Products Co., 1224 Fifth St., S. W., Canton, Ohio
Challenge Cutlery Corp., 58 Seymore St., Bridgeport, Conn.
Ka-Bar—see Union Cutlery Co.
Union Cutlery Co., Olean, N. Y. "Ka-Bar"

KNOB SCREWS—
see **Screweyes,** Insulated

KNOBS, Bottom—
see **Fittings,** Fixture

KNOBS, Porcelain Wiring
Solid and Split Knobs for use with Open Wiring; for Special Molded Shapes—see Porcelain, Molders of

Bull Dog—see Illinois Electric Porcelain Co.
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Davidson Porcelain Co., East Liverpool, Ohio "Ever-Ready"
Ever-Ready—see Davidson Porcelain Co.
Illinois Electric Porcelain Co., Macomb, Ill. "Bull Dog"
Paulding, Inc., John I., (Acushnet) New Bedford, Mass.
Peach Porcelain Co., East Liverpool, Ohio
Porcelain Products, Inc., Findlay, Ohio
Thomas & Sons Co., R., Lisbon, Ohio
Trenle Porcelain Co., East Liverpool, Ohio

KNOCKOUT BLANKS
see **Blanks,** Knockout

KNOCKOUT SEALS—
see **Blanks,** Knockout

LABORATORIES, Electrical Testing
Laboratories equipped to do Electrical, Magnetic, Photometric and related Commercial Testing Work

Bureau of Standards, (Dept. of Commerce) Washington, D. C.
Detroit Testing Laboratory, 554 Bagley Ave., Detroit, Mich.
Electrical Testing Laboratories, 80th St. & East End Ave., New York, N. Y.
New York Testing Laboratories, 80 Washington St., New York, N. Y.
Pittsburgh Testing Laboratory, Stevenson & Locust Sts., Pittsburgh, Pa.
Twining Laboratories, 2146 Merced St., Fresno, Cal.
Ward & Co., E. H., 608 S. Dearborn St., Chicago, Ill.

LABORATORY RHEOSTATS—
see **Rheostats,** Laboratory

LADLES, Electric Melting—
see **Pots,** Electric Melting

LADLES, Pouring—
see **Pots,** Electric Melting

LAG SCREWS—
see **Screws,** Lag

LAMINATED BAKELITE—
see **Insulation,** Synthetic

LAMINATED PANELS—
see **Insulation,** Synthetic

LAMP ADAPTERS, Oil—
see **Adapters,** Oil Lamp

LAMP ANNUNCIATORS—
see **Annunciators,** Drop and Lamp

LAMP BASE REMOVERS—
see **Removers,** Lamp Base

LAMP BASES—
see **Bases,** Incandescent Lamp

LAMP BULBS—
see **Bulbs,** Incandescent Lamp

LAMP CABINETS—
see **Cabinets,** Lamp Display

LAMP CAPS—
see **Hoods,** Color

LAMP CARBONS—
see **Carbons,** Arc Lamp

LAMP CHANGERS—
see **Changers,** Lamp

LAMP CLUSTERS—
see **Clusters,** Floor and Table Lamp

LAMP COLORING—
see **Coloring and Frosting,** Lamp

LAMP CORD—
see **Cord,** Twisted or Parallel

LAMP FILAMENTS—
see **Filaments,** Incandescent Lamp

LAMP FROSTING—
see **Coloring and Frosting,** Lamp

LAMP GUARDS—
see **Guards,** Lamp

LAMP LOCKING SOCKETS—
see **Sockets,** Lamps Locking

LAMP LOCKS—
see **Locks,** Lamp

LAMP MAKING MACHINES—
see **Machines,** Incandescent Lamp Making

LAMP REPLACERS—
see **Changers,** Lamp

LAMP SUSPENSION SWITCHES—
see **Switches,** Lamp Suspension

LAMPS, Carbon Arc
For Tungsten and Carbon Filament Lamps—see Lamps, Incandescent; for Therapeutic Arc Lamps—see Lamps, Therapeutic

Atlas Electric Devices Co., 362 W. Superior St., Chicago, Ill. "Solar-Lite"

Gelb Co., Joseph, 250 W. 54th St., New York, N. Y. "Spectro"

General Electric Co., 1 River Rd., Schenectady, N. Y.

Handy Sun—see Interstate Electric Co.

Interstate Electric Co., 4339 Duncan Ave., St. Louis, Mo. "Handy Sun"

Perfex Electric Co., 124 Southard Ave., Toledo, Ohio

Photogenic Machine Co., 512 Andrews Ave., Youngstown, Ohio

Solar-Lite—see Atlas Electric Devices Co.

Spectro—see Gelb Co.

Super-Power Arc Lamp Co., Geneva, Ohio

LAMPS, Clamp—
see **Lamps,** Portable Clamp

LAMPS, Incandescent
Vacuum and Gas Filled Lamps with Tungsten or Carbon Filaments; for Carbon Arc Lamps—see Lamps, Carbon Arc; for Lamps for Medicinal Treatments—see Lamps, Therapeutic

Anchor Electric Co., 414 S. Market St., Chicago, Ill.

Atlantic Electric Lamp Co., 77 Washington St., Salem, Mass.

Brinkerhoff Electric Co., 600 11th St., West New York, N. J. "Sunup"

Candalite—see Electric Candalite Corp.

Champion — see Consolidated Electric Lamp Co.

Consolidated Electric Lamp Co., 90 Holten St., Danvers, Mass. "Champion"

Economic Lamp Co., 121 Madison St., Malden, Mass.

Electric Candalite Corp. of America, 410 11th St., West New York, N. J. "Candalite"

Eveready—see National Carbon Co.

General Electric Co., Union Trust Bldg., Cleveland, Ohio

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Sunbeam Lamp Division, General Electric Co., Cleveland, Ohio "Sunbeam")
Cataloged on page 87

Herzoc Miniature Lamp Co., W. F., Vernon Ave. & 13th St., Long Island City, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Loxin"

Hygrade Lamp Co., 60 Boston St., Salem, Mass.

Kentucky Electric Lamp Co., Owensboro, Ky.

Loxin—see Hubbell, Inc.

Nalco—see North American Electric Lamp Co.

National Carbon Co., 30 E. 42d St., New York, N. Y. "Eveready"
Cataloged on page 133

Nilco Lamp Works, Emporium, Pa.

North American Electric Lamp Co., 1124 S. Grand Blvd., St. Louis, Mo. "Nalco"

Safety Electric Co., 431 S. Dearborn St., Chicago, Ill.

Silvray Lighting, Inc., 53 W. 14th St., New York, N. Y.

Sunbeam—see Graybar Electric Co.

Sunup—see Brinkerhoff Electric Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

LAMPS, Industrial Bench or Machine
Adjustable Lighting Fixtures and Lamps for Mounting on or Adjacent to Machines or Benches

Adjustable Fixture Co., 62 Mason St., Milwaukee, Wis.

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

American Fixture Co., 232 W. Water St., Milwaukee, Wis.

Anderson—see Localized Light Engineers

Bart Mfg. Co., 6001 S. Talman Ave., Chicago, Ill.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Herwig Co., 1752 Sedgwick St., Chicago, Ill.

Hinsdill Electric Co., 225 River St., Troy, N. Y.

Holt Co., Edward, 6911 S. Chicago Ave., Chicago, Ill.

Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.

Localized Light Engineers, 375 Park Ave., Brooklyn, N. Y. "Anderson"

McCrosky Tool Corp., Meadville, Pa.

Multiple-Socket Fixture Co., 374 E. 152d St., Cleveland, Ohio

Sampson Axcess System, Inc., 282 Broad St., Lynn, Mass.

White Co., O. C., 21 Hermon St.. Worcester, Mass.

LAMPS, Machine—
see **Lamps,** Industrial Bench or Machine

LAMPS, Mercury Vapor
Arc Lamps in which the Source of Light is Mercury Vapor; for Carbon Arc Lamps—see Lamps, Carbon Arc

General Electric Vapor Lamp Co., 410 Eighth St., Hoboken, N. J.

Hanovia Chemical & Mfg. Co., Chestnut St. & N. J. R. R. Ave., Newark, N. J.

LAMPS, Picture
Covering only Companies Cataloging this Product

Lum-n-Art—see Reflector & Illuminating Co.

Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Lum-n-Art" "Sterling"
Cataloged on page 114

Sterling—see Reflector & Illuminating Co.

LAMPS, Portable Book—
see **Lamps,** Portable Clamp

LAMPS, Portable Clamp
For Table and Desk Lamps—see Lamps, Residential Table or Desk

Adapt-a-Lite—see Appleton Electric Co.

Adjusto-Lite—see Farber, Inc.

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Aladdin Mfg. Co., 602 E. 18th St., Muncie, Ind.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Adapt-a-Lite"

Berry, A. Hall, 71 Murray St., New York, N. Y. (Sole Distributors for Play-O-Lite Co., Worcester, Mass.)

Booklite—see Melodelite Corp.

Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.

Companion-Lite—see Robison Products Corp.

Dim-A-Lamp—see Wirt Co.

Duette—see Op-Al Electric & Mfg. Co.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Farber, Inc., S. W., 151 S. Fifth St., Brooklyn, N. Y. "Adjusto-Lite"

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Gacor—see General Appliance Corp.

General Appliance Corp., 120 Eighth St., San Francisco, Cal. "Gacor"

Glade Mfg. Co., 1603 S. Michigan Ave., Chicago, Ill.

Greist Mfg. Co., 446 Blake St., New Haven, Conn.

Guth Co., Edwin F., 2615 Washington Ave., St. Louis, Mo. "Nitelite"

Lightolier Co., 575 Broadway, New York, N. Y.

Matchless Brass Mfg. Co., 59 Jay St., Brooklyn, N. Y.

Melodelite Corp., 132 Nassau St., New York, N. Y. "Booklite"

Nitelite—see Guth Co.

Op-Al Electric & Mfg. Co., 1057 W. 30th St., Indianapolis, Ind. "Duette"

Play-O-Lite Co.—see Berry, A. Hall

Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.

Practi-Lite—see Waterbury Metal Wares Co.

Red Spot—see Wakefield Brass Co.

Robison Products Corp., 44 E. 25th St., New York. N. Y. "Companion-Lite"

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Seymour Products Co., Seymour, Conn.

Wakefield Brass Co., F. W., Vermilion, Ohio "Red Spot"

Waterbury Metal Wares Co., Jackson St., Waterbury, Conn. "Practi-Lite"

Wirt Co., 5227 Greene St., (Germantown) Philadelphia, Pa. "Dim-A-Lamp"

Wizard Lamp Co., 947 Folsom St., San Francisco, Cal.

LAMPS, Portable Hand
Hand Lamps with or without Guards complete with Cord; for Extension Cords—see Cords, Extension; for Safety Handles—see Handles, Portable Lamp Safety

Bart Mfg. Co., 6001 S. Talman Ave., Chicago, Ill.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 109

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Guardian Mfg. & Supply Corp., Graybar Bldg., New York, N. Y.

Hanger Electric Mfg. Co., 105 S. Dearborn St., Chicago, Ill.

Hessel Co., W. F., 76 Greenwich St., New York, N. Y.

Holdfast—see Matthews Corp.

McGill Mfg. Co., Valparaiso, Ind.

Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo. "Holdfast"

Morse Co., Frank W., 289 Congress St., Boston, Mass.

Packard Electric Co., 312 Dana Ave., Warren, Ohio

Protex—see Woodhead Co.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Stewart & Co., A. B., 225 W. Huron St., Chicago, Ill.

Vaprotex—see Woodhead Co.

Woodhead Co., Daniel, 15 N. Jefferson St., Chicago, Ill. "Protex" "Vaprotex"

LAMPS, Residential Floor or Bridge

For Table or Desk Lamps—see Lamps, Residential Table or Desk

Aladdin Mfg. Co., 602 E. 18th St., Muncie, Ind.

Almco—see Art Lamp Mfg. Co.

Andresen Co., Jacob, 258 Third Ave., S., Minneapolis, Minn.

Anodion Metal Co., 124 South St., Baltimore, Md.

Art Colony Industries, 34 Union Sq., New York, N. Y.

Art Lamp Mfg. Co., 1433 S. Wabash Ave., Chicago, Ill. "Almco"

Artcraft Iron Works, 2 E. 23d St., New York, N. Y.

Artistic Brass & Bronze Works, 119 W. 24th St., New York, N. Y.

Artistic Bronze Co., 2050 Fairhill Ave., Bridgeport, Conn.

Bradley & Hubbard Mfg. Co., Meriden, Conn.

Brady Mfg. Co., 565 E. Jefferson Ave., Detroit, Mich.

Caldwell & Co., E. F., 36 W. 15th St., New York, N. Y.

Cassidy Co., 101 Park Ave., New York, N. Y.

Crown Metal Products Corp., 200 First St., S., St. Charles, Ill.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill. "Verdelite"

Godfrey-Heaton Co., 212 Fifth Ave., New York, N. Y.

Grand Wood Works, Inc., 6108 W. Grand Ave., Chicago, Ill.

Gregg Mfg. Co., Fredericktown, Ohio

Hudson Brass Works, 16 Nassau St., Brooklyn, N. Y.

Kayline Co., 600 Huron Rd., Cleveland, Ohio

Kelton Mfg. Co., 77 Beacon St., Worcester, Mass.

Kernes Mfg. Co., 1400 N. Halsted St., Chicago, Ill.

Lee-Marion Co., 300 W. Adams St., Chicago, Ill.

Ludlow & Minor, 246 W. 23d St., New York, N. Y.

Luminator, Inc., 1730 S. Michigan Blvd., Chicago, Ill.

Miller Co., 101 Center St., Meriden, Conn.

Moe-Bridges Co., 242 Broadway, Milwaukee, Wis.

Monolite Lamps, Inc., 145 W. 45th St., New York, N. Y.

Murlin Mfg. Co., 54th & Paschall Ave., Philadelphia, Pa.

Mutual-Sunset Lamp Mfg. Co., 21 E. Houston St., New York, N. Y.

Neuwirth, Robinson & Goldman, 33 E. 18th St., New York, N. Y.

Noe & Sons, William R., 43 E. Tenth St., New York, N. Y.

North Light Corp., 32 W. 15th St., New York, N. Y.

Northwestern Art Shade Co., 150 N. Wacker Dr., Chicago, Ill. "Nowasco"

Nowasco—see Northwestern Art Shade Co.

Pearsall Mfg. Co., J. R., 23 Water St., Rochester, N. Y.

Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.

R-M-C—see Rindsberger Mfg. Co.

Rainaud Co., H. E., Center & Colony Sts., Meriden, Conn.

Rembrandt Lamp Corp., 259 E. Erie St., Chicago, Ill.

Rindsberger Mfg. Co., 18 E. 24th St., Chicago, Ill. "R-M-C"

Salterini, John B., 37 W. 23d St., New York, N. Y.

Sandel Mfg. Co., 1514 W. Kinzie St., Chicago, Ill.

Schwartz & Bro., S. Robert, 160 Varick St., New York, N. Y.

Silvray Lighting, Inc., 53 W. 14th St., New York, N. Y.

Tiffany Studios, Corona, N. Y.

Verdelite—see Faries Mfg. Co.

Wahle Co., Albert, Metropolitan & Morgan Aves., Brooklyn, N. Y.

Weldon Mfg. Co., 29 Walker St., New York, N. Y.

White Mfg. Co., J. H., 79 Madison Ave., New York, N. Y.

LAMPS, Residential Table or Desk

For Floor or Bridge Lamps—see Lamps, Residential Floor or Bridge

Adjustable Fixture Co., 62 Mason St., Milwaukee, Wis.

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Aladdin Mfg. Co., 602 E. 18th St., Muncie, Ind.

Almco—see Art Lamp Mfg. Co.

Art Colony Industries, 34 Union Sq., New York, N. Y.

Art Industries, 225 Fifth Ave., New York, N. Y. "Lavinite"

Art Lamp Mfg. Co., 1433 S. Wabash Ave., Chicago, Ill. "Almco"

Artistic Bronze Co., 2050 Fairfield Ave. Bridgeport, Conn.

Bradley & Hubbard Mfg. Co., Meriden Conn.

Brady Mfg. Co., 565 E. Jefferson Ave. Detroit, Mich.

Caldwell & Co., E. F., 36 W. 15th St., New York, N. Y.

Cassidy Co., 101 Park Ave., New York, N. Y.

Corona Corp.—see Lightolier Co.

Crown Metal Products Corp., 200 First St., S., St. Charles, Ill.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Ender Mfg. Corp., 213 Grand St., New York, N. Y.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Gleason Mfg. Co., E. P., 22 E. 41 St., New York, N. Y.

Godfrey-Heaton Co., 212 Fifth Ave., New York, N. Y.

Gregg Mfg. Co., Fredericktown, Ohio

Greist Mfg. Co., 446 Blake St., New Haven, Conn.

Hamilton-Ross Factories, 738 Tilden St. Chicago, Ill.

Ideal Cut Glass Co., Canastota, N. Y.

Jefferson Glass Co., Follansbee, W. Va.

Kayline Co., 600 Huron Rd., Cleveland Ohio

Lavinite—see Art Industries

Lee-Marion Co., 300 W. Adams St., Chicago, Ill.

Lightolier Co., 575 Broadway, New York N. Y. (Sole distributors for Coron Corp., Jersey City, N. J.)

Ludlow & Minor, 246 W. 23d St., New York, N. Y.

McFaddin & Co., H. G., 38 Warren St., New York, N. Y.

Miller Co., 101 Center St., Meriden, Conn.

Moe-Bridges Co., 242 Broadway, Milwaukee, Wis.

Mutual-Sunset Lamp Mfg. Co., 21 E. Houston St., New York, N. Y.

Noe & Sons, William R., 43 E. Tenth St., New York, N. Y.

North Light Corp., 32 W. 15th St., New York, N. Y.

Northwestern Art Shade Co., 150 N. Wacker Dr., Chicago, Ill. "Nowasco"

Nowasco—see Northwestern Art Shade Co.

Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.

Plaut & Co., L., 434 E. 23d St., New York, N. Y.

R-M-C—see Rindsberger Mfg. Co.

Rainaud Co., H. E., Center & Colony Sts., Meriden, Conn.

Rembrandt Lamp Corp., 259 E. Erie St., Chicago, Ill.

Rindsberger Mfg. Co., 18 E. 24th St., Chicago, Ill. "R-M-C"

Rustic Well Foundry, 2050 Fairfield Ave., Bridgeport, Conn.

Salterini, John B., 37 W. 23d St., New York, N. Y.

Schwartz & Bro., S. Robert, 160 Varick St., New York N. Y.

Silverglo Lamps, Inc., 302 E. Federal St., Baltimore, Md.

Sun-Ray Lighting Products, Inc., 119 Lafayette St., New York, N. Y.

Tiffany Studios, Corona, N. Y.

Vic Frey Pottery, Inc., 380 Springfield Ave., Summit, N. J.

Wahl & Co., 64 W. 48th St., New York, N. Y.

Wahle Co., Albert, Metropolitan & Morgan Aves, Brooklyn, N. Y.

Weldon Mfg. Co., 29 Walker St., New York, N. Y.

White Mfg. Co., J. H., 79 Madison Ave., New York, N. Y.

LAMPS, Sewing Machine

Sockets with Reflectors and Fittings for Attaching to Sewing Machines

Rockford Metal Specialty Co., Rockford, Ill. "Se-To-So"

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Se-To-So—see Rockford Metal Specialty Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

White Co., O. C., 21 Hermon St., Worcester, Mass.

LAMPS, Therapeutic

Lamps used for Medical Treatments; for Violet Ray Outfits—see Generators, Electrotherapeutic

Adjustable Fixture Co., 62 Mason St., Milwaukee, Wis.

Adjusto-Lite—see Farber, Inc.

Alpine—see Hanovia Chemical & Mfg. Co.

Applied Research, Inc., 4753 Broadway, Chicago, Ill. "Nu-Sol"

Atlantic Electric Lamp Co., 77 Washington St., Salem, Mass.

Atlas Electric Devices Co., 362 W. Superior St., Chicago, Ill. "Pan-Ray-Arc"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Betz Co., Frank S., Hoffman & Johnson Sts., Hammond, Ind.

Beck-Lee Corp., 1219 W. Van Buren St., Chicago, Ill. "Sun-Rival"

Bleadon-Dun Co., 2300 Warren Ave., Chicago, Ill. "Thermic"

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Branston, Inc., Chas. A., 297 Washington St., Buffalo, N. Y.

Britesun, Inc., 3739 Belmont Ave., Chicago, Ill.

Burdick Corp., Milton, Wis.

Campbell Co., Wm., 1000 N. Union Ave., Alliance, Ohio

Carboray—see Cincinnati Automatic Machine Co.

Cello, Inc., 96 Prince St., New York, N. Y.

Cincinnati Automatic Machine Co., (South Oakley) Cincinnati, Ohio "Carboray"

Clinical Sun—see Wohl & Co., M. J.

Cruver Mfg. Co., 2460 Jackson Blvd., Chicago, Ill.

Diamond Appliance Co., South Bend, Ind.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvelite"

Edmands, Walter S., 25 Pearl St., Boston, Mass.

Electric Hotpack Co., 1229 Cottman St., Fox Chase, Pa. "Hotpack"

Eveready—see National Carbon Co.
Ever-Sun Arc Lamp Co., 4550 Fulton St., Chicago, Ill.
Farber, Inc., S. W., 151 S. Fifth St., Brooklyn, N. Y. "Adjusto-Lite"
Fischer & Co., H. G., 2333 Wabansia Ave. Chicago, Ill.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite" "Vim-Ray"
Gelb Co., Joseph, 250 W. 54th St., New York, N. Y. "Spectro"
Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.
Handy Sun—see Interstate Electric Co.
Hanovia Chemical & Mfg. Co., Chestnut St. & N. J. R.R. Ave., Newark, N. J. "Alpine"
Health Light—see Wigginton Co.
Hospital Supply Co., 159 E. 23d St., New York, N. Y.
Hotpack—see Electric Hotpack Co.,
Hurley Machine Co., 22d St. & 54th Ave., Chicago, Ill. "Thor"
Iler Electrical Mfg. Co., Homer City, Pa. "Polar Ray"
Illinois Stamping & Mfg. Co., 220 N. Jefferson St., Chicago, Ill.
Interstate Electric Co., 4339 Duncan Ave., St. Louis, Mo. "Handy Sun"
Jackson Electrical Co., 900 W. Van Buren St., Chicago, Ill.
Johnson, Inc., Paul E., 1824 S. Albert St., Chicago, Ill. "Universal"
Keene Chemical Co., 208 E. 23d St., New York, N. Y.
Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-a-Hot"
Kny-Scheerer Corp. of America, 233 Spring St., New York, N. Y.
Luckenbach & Halberg, 29 W. 57th St., New York, N. Y.
McFaddin & Co., H. G., 38 Warren St., New York, N. Y.
McIntosh Electrical Corp., 223 N. California Ave., Chicago, Ill.
Marvelite—see Eastern Laboratories
Master Electric Co., 421 S. Market St., Chicago, Ill.
Meyer Co., Wm., 1648 N. Girard St., Chicago, Ill.
National Carbon Co., 11700 Madison Ave., Cleveland, Ohio "Eveready"
National Health Appliance Corp., 1676 N. Claremont Ave., Chicago, Ill.
Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.
National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill., "White Cross"
Nu-Sol—see Applied Research, Inc.
Olesen Illuminating Co., Otto K., 1645 Hudson Ave., Hollywood, Cal.
Op-Al Electric & Mfg. Co., 1057 W. 30th St., Indianapolis, Ind.
Pan-Ray-Arc—see Atlas Electric Devices Co.
Pelton & Crane Co., 632 Harper Ave., Detroit, Mich.
Perfex Electric Co., 124 Southard Ave., Toledo, Ohio
Pfleger Mfg. Co., 347 Florida St., Milwaukee, Wis.
Polar Ray—see Iler Electrical Mfg. Co.
Prachar Mfg. Co., 3205 Perkins Ave., Cleveland, Ohio
Radio Electrical Works, 150 W. 22d St., New York. N. Y.
Rauland Corp., 3341 Belmont Ave., Chicago, Ill.
Robertson, Inc., Leo F., 532 W. 22d St., New York, N. Y.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio
Russell Electric Co., 348 W. Huron St., Chicago, Ill.
Samson-United Corp., 8 Jones St., Rochester, N. Y.
Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.
Schwartz & Bro., S. Robert, 160 Varick St., New York, N. Y.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y.
Spectro—see Gelb Co.
Star-Rite—see Fitzgerald Mfg. Co.
Stein-O-Lite Co., 133 Floyd St., Brooklyn, N. Y.
Steinmetz Heating Co., 30 Church St., New York, N. Y.
Sun-Rival—see Beck-Lee Corp.
Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"
Super Lectric—see Superior Electric Products Corp.
Thermic—see Bleadon-Dun Co.
Thermo-a-Hot—see Monarch-Knapp Co.
Thor—see Hurley Machine Co.
Torrid—see Beardsley & Wolcott Mfg. Co.,
Tower Mfg. Co., 122 Brookline Ave., Boston, Mass.
Tri-Beam—see Western Coil & Electrical Co.
U. V. R. Laboratories, 419 Fourth Ave., New York, N. Y.
Universal—see Johnson, Inc.
Varick Electric Mfg. Co., 38 E. 21st St., New York, N. Y.
Victor X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.
Vim-Ray—see Fitzgerald Mfg. Co.
Wahle Co., Albert, Metropolitan & Morgan Aves., Brooklyn, N. Y.
Weldon Mfg. Co., 29 Walker St., New York, N. Y. "Wel-Ray"
Wel-Ray—see Weldon Mfg. Co.
Western Coil & Electrical Co., Racine, Wis. "Tri-Beam"
White Cross—see National Stamping & Electric Works
Wigginton Co., 434 N. Church St., Kalamazoo, Mich. "Health Light"
Wohl & Co., M. J., 40th Ave. & Tenth St., Long Island City, N. Y. "Clinical Sun"

LAMPS, Tungsten—
see **Lamps,** Incandescent

LANTERNS, Lighting Fixture—
see **Fixtures,** Public Building Outdoor
also **Fixtures,** Residential Indoor
also **Fixtures,** Residential Outdoor

LANTERNS, Portable Dry Battery
Dry Battery Lanterns equipped with a Bail or Handle; for Flashlights—see Flashlights, Battery

Allbright Electric Corp., 48 W. 21st St., New York, N. Y. "Utra"
Conger Lantern Co., 70 E. Sixth St., Portland, Ore.
Delta Electric Co., Marion, Ind.
Ecolite—see Economy Electric Lantern Co.
Economy Electric Lantern Co., 2568 Lincoln Ave., Chicago, Ill. "Ecolite"
Eveready—see National Carbon Co.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Flolight—see Hutchison Engineering Works
Genesy Electric Lantern Co., 529 Southwest Blvd., Kansas City, Mo.
Grether Fire Equipment Co., 312 E. Second St., Dayton, Ohio
Half-Mile-Ray—see Portable Light Co.
Handlan-Buck Mfg. Co., 210 N. Third St., St. Louis, Mo.
Hutchison Engineering Works, 549 Washington Blvd., Chicago, Ill. "Flolight"
Marathon Battery Co., Wausau, Wis.
National Carbon Co., 30 E. 42d St., New York, N. Y. "Eveready"
Portable Light Co., 12 Warren St., New York, N. Y. "Half-Mile-Ray"
Utra—see Allbright Electric Corp.

LAUNDRY IRONS—
see **Irons,** Electric Laundry

LAVA INSULATION—
see **Insulation,** Lava

LAWN MOWERS—
see **Mowers,** Electric Lawn

LEAD CLAD WIRE—
see **Wire,** Lead Sheathed

LEAD-IN WIRE—
see **Wire,** Rubber Covered

LEAD SHEATHED CABLE—
see **Wire,** Lead Sheathed

LEAD SHEATHED WIRE—
see **Wire,** Lead Sheathed

LEATHER BELTING—
see **Belting,** Leather

LEATHER GLOVES—
see **Gloves,** Lineman's Leather

LEATHER WASHERS—
see **Washers,** Leather

LENSES, Flashlight
Companies prepared to furnish Lenses to Specifications

Corning Glass Works, Corning, N. Y.
Deknatal & Son, J. A., 222d St. & 96th Ave., Queens Village, N. Y.
Jefferson Glass Co., Follansbee, W. Va.
Macbeth-Evans Glass Co., Charleroi, Pa.
Rochester Glass Products Co., 29 N. Water St., Rochester, N. Y.
Sneath Glass Co., Wabash Ave., Hartford City, Ind.

LETTER BOXES—
see **Boxes,** Letter and Bell

LEVER SWITCHES—
see **Switches,** Dead Front Lever
also **Switches,** Flush Toggle
also **Switches,** Limit

LIGHT BATHS—
see **Baths,** Electric Light

LIGHTERS, Electric Cigar
Glowing Wire Coil Types operating on Batteries or Lighting Circuits

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"
Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. "Quick-Lite"
Cataloged on page **61**
Cole Co., Henry, 54 Old Colony Ave., Boston, Mass.
Connecticut Automotive Specialties Co., 1333 Railroad Ave., Bridgeport, Conn.
Cuno Engineering Corp., S. Vine St., Meriden, Conn.

LIGHTERS, Electric Cigar (Continued)

Drake Mfg. Co., 2883 Water St., Milwaukee, Wis.
Duralectric Corp., 6359 Pennsylvania Ave., Pittsburgh, Pa.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.
Frankart, Inc., 225 Fifth Ave., New York, N. Y.
Franklin, Inc., A. W., 11 W. 42d St., New York, N. Y. "Lamp-O-Lighter"
Gacor—see General Appliance Corp.
General Appliance Corp., 120 Eighth St., San Francisco, Cal. "Gacor"
Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"
Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.
Hance-Parker Mfg. Co., 397 W. Main St., Meriden, Conn. "Smokerlite"
Handy—see Chicago Electric Mfg. Co.
Havalite—see National Specialties Co.
Lamp-O-Lighter—see Franklin, Inc.
Litchfield Corp., 25 Dey St., New York, N. Y.
Manning, Bowman & Co., Meriden, Conn.
Metal Specialties Mfg. Co., 352 N. Kedzie Ave., Chicago, Ill.
National Specialties Co., Fort Wayne, Ind. "Havalite"
Parker Engineering Co., 20 Monroe St., Meriden, Conn. "Redilite"
Polar Cub—see Gilbert Co.
Quick-Lite—see Circle F Mfg. Co.
Redilite—see Parker Engineering Co.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Siko-Lite Corp., Meriden, Conn.
Smokerlite—see Hance-Parker Mfg. Co.
Standard Die & Specialty Co., 1923 W. Austin Ave., Chicago, Ill.
Tassel-Liter Co., 549 W. Randolph St., Chicago, Ill.
Torrid—see Beardsley & Wolcott Mfg. Co.
United Metal Art Mfg. Co., 293 Wyckoff Ave., Brooklyn, N. Y.
United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y.
Usalite—see United States Electric Mfg. Corp.

LIGHTERS, Electric Gas

Remote Controlled Gas Lighting Appliances

Gas-Gard Co., 375 Main St., E., Rochester, N. Y.
Savutime Devices, Inc., 88 Manhattan St., Rochester, N. Y.

LIGHTING PLANTS—

see **Plants,** Farm Light and Power

LIGHTING, Street—

see **Fixtures,** Street Lighting Pole Bracket
also **Switches,** Lamp Suspension

LIGHTNING ARRESTERS, Radio—

see **Arresters,** Radio Lightning

LIGHTS, Aisle—

see **Fixtures,** Theatre

LIGHTS, Step—

see **Fixtures,** Theatre

LIGHTS, Work—

see **Fixtures,** Theatre

LIMIT SWITCHES—

see **Switches,** Limit

LINEN TAPE—

see **Tape and Sleeving,** Cotton

LININGS, Socket

Tubular Insulated Linings for Metal Socket Shells

Remington Mfg. Co., 939 Barnum Ave., Bridgeport, Conn.
Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.

LINK FUSES—

see **Fuses,** Open Link

LINKS, Chain Splicing—

see **Fittings,** Pull Chain

LINKS, Renewable Fuse

Fusible Elements for use in Renewable Cartridge Type Fuses

Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.
Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill.
Electric Fuseguard Co., 1002 W. Main St., Charlottesville, Va.
General Electric Co., Bridgeport, Conn.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Shawmut—see Chase-Shawmut Co.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y.

LISTING, Asbestos—

see **Tape and Tubing,** Asbestos

LITZ WIRE—

see **Wire,** Covered Stranded Enameled

LOAD CONTROLLERS—

see **Relays,** Demand Limiting

LOADS, Artificial—

see **Loads,** Phantom

LOADS, Phantom

For use in Furnishing Load Current to Instruments being Tested—see also Instruments, Meter Testing

Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa. "Tesco"
General Electric Co., 1 River Rd., Schenectady, N. Y.
States Co., 17 New Park Ave., Hartford, Conn.
Tesco—see Eastern Specialty Co.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y.
Western Electro-Mechanical Co., 131 Broadway, Oakland, Cal.

LOCATORS, Short Circuit—

see **Detectors,** Voltage

LOCK WASHERS—

see **Washers,** Lock

LOCKING PLUGS—

see **Plugs,** Dummy Fuse

LOCKING RELAYS—

see **Relays,** Current Control
also **Relays,** Temperature

LOCKING SOCKETS—

see **Sockets,** Lamp Locking

LOCKNUTS—

see **Locknuts,** Conduit
also **Nuts,** Lock

LOCKNUTS, Conduit

Thin Hexagonal Threaded Nuts; for Conduit Bushings—see Bushings, Conduit

Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio
Adapti Co., 2996 E. 72d St., Cleveland, Ohio
All-Steel-Equip Co., Aurora, Ill.
American Circular Loom Co., 90 West St., New York, N. Y.
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
C. S. T.—see Chicago Steel Tank Co.
C. W. P.—see Cleveland Wrought Products Co.
Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."
Cleveland Wrought Products Co., W. 60th St. at Denison Ave., Cleveland, Ohio "C. W. P."
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"
Gem—see Jefferson Electric Co.
General Electric Co., Bridgeport, Conn. Cataloged on page 65
Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem"
Kwikon—see Fralick & Co.
Liberty Steel Wire Products Co., Johnstown, Pa.
Mefco—see Flaherty Co.
Midwest Electric Co., 1639 Walnut St., Chicago, Ill.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.
Pittsburgh Valve & Fittings Co., Barberton, Ohio
Pratt Chuck Co., Main St., Frankfort, N. Y.
Raco—see Roach-Appleton Mfg. Co.
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Star—see Steel City Electric Co.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Star"
T & B—see Thomas & Betts Co.
Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"
Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.

LOCKS, Lamp

Special Locks for use in any Standard Socket

East Haven Specialty Co., East Haven Conn. "Grip-Lock"
Grip-Lock—see East Haven Specialty Co.
Kulp Theft-Proof Lamp Co., 360 N. Michigan Ave., Chicago, Ill. "Theft-Proof"
Multiple Selling Corp., 350 Madison Ave., New York, N. Y.
Ren Mfg. Co., 11 Railroad Ave., Winchester, Mass.
Theft-Proof—see Kulp Theft-Proof Lamp Co.

LOCOMOTIVE CABLE—
see **Cable,** Concentric

LOCOMOTIVE CORD—
see **Cord,** Rubber Sheathed

LOOM—
see **Conduit,** Flexible Non-Metallic

LOOM CLAMPS—
see **Clamps,** Loom

LOUD SPEAKERS—
see **Speakers,** Loud

LOUVRES, Fan—
see **Boxes,** Wall Fan

LOW VOLTAGE TRANSFORMERS—
see **Transformers,** Low Current and Voltage

LUBRICANTS, Commutator—
see **Compounds,** Commutator Lubricating

LUGS, Cable—
see **Lugs,** Soldering Cable
also **Lugs,** Solderless

LUGS, Connecting—
see **Lugs,** Solderless

LUGS, Soldering—
see **Lugs,** Soldering Cable
also **Terminals,** Wire

LUGS, Soldering Cable
Cast or Wrought Brass or Copper for use in making Cable and Wire Connections; for Small Soldering Lugs—see Terminals, Wire

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo.

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.

Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio

Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.

Burndy Engineering Co., 230 E. 45th St., New York, N. Y.

Champion Switch Co., Kenova, W. Va.

Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Delta-Star Electric Co., 2400 Block, Fulton St., Chicago, Ill.

Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa.

Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"

Elpeco—see Electric Power Equipment Corp.

Frankel Connector Co., 179 Hudson St., New York, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

Ilsco—see Incandescent Light & Stove Co.

Incandescent Light & Stove Co., Madisonville Sta., Cincinnati, Ohio "Ilsco"

Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"

K-C—see King Mfg. Co.

King Mfg. Co., B. C., 302 Park Ave., Brooklyn, N. Y. "K-C"

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Lyons Mfg. Co., (Mt. Carmel) New Haven, Conn.

Memco Engineering & Mfg. Co., 79 Freeman St., Long Island City, N. Y.

Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Morse Co., Frank W., 289 Congress St., Boston, Mass.

Patton-Mac Guyer Co., Baker St. & Virginia Ave., Providence, R. I.

Plainville Electrical Products Co., Plainville, Conn.

Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio.

Pringle Electrical Mfg. Co., 1912 Sixth St., Philadelphia, Pa.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Shawmut—see Chase-Shawmut Co.

Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.

Southern Electrical Equipment Co., 314 W. Bland St., Charlotte, N. C.

Thoner & Martens, 463 Commercial St., Boston, Mass.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Trumbull-Vanderpoel Electric Mfg. Co., Bantam, Conn.

Union—see Jefferson Electric Co.

WT—see Wolverine Tube Co.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wolverine Tube Co., 1451 Central Ave., Detroit, Mich. "WT"

LUGS, Solderless
Solderless Terminal Lugs for Connecting Wires or Cables; for Soldering Lugs—see Lugs, Soldering Cable—also Terminals, Wire

Dossert & Co., 242 W. 41st St., New York, N. Y.

Frankel Connector Co., 179 Hudson St., New York, N. Y.

LUGS, Wire Terminal—
see **Lugs,** Solderless

LUMBER, Asbestos—
see **Asbestos,** Sheet

LUMINOUS COMPOUNDS—
see **Compounds,** Luminous

LUMINOUS FLUSH PLATES—
see **Plates,** Flush Switch and Outlet

LUMINOUS PENDANTS—
see **Pendants,** Luminous

LUMINOUS SCREWS—
see **Pendants,** Luminous

MACHINE BOLTS—
see **Bolts,** Machine

MACHINE LAMPS—
see **Lamps,** Industrial Bench or Machine

MACHINE SCREWS—
see **Screws,** Brass Machine
also **Screws,** Iron or Steel Machine

MACHINERY SPRINGS—
see **Springs,** Machinery or Coil

MACHINES, Armature Repair—
see **Machines,** Armature Winding and Taping

MACHINES, Armature Winding and Taping
Machines for Winding and Insulating Armature Coils

Armature Coil Equipment Co., 2415 Forestdale Ave., Cleveland, Ohio. "Handy"

Chapman Electrical Works, P. E., 1820 Chouteau Ave., St. Louis, Mo.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Peerless"

Handy—see Armature Coil Equipment Co

Peerless—see Electric Service Supplies Co.

Ridlon Co., Frank, 257 A St., Boston, Mass.

MACHINES, Cable Armoring
Machines for Applying Steel Tape Armor around Electric Cables

Sleeper & Hartley, 335 Chandler St., Worcester, Mass.

MACHINES, Cabling—
see Machines, Wire Stranding

MACHINES, Cloth Cutting
Machines with Motor Driven Cutting Blades for use in Cutting Cloth in Commercial Establishments

Eastman Machine Co., Washington & Goodell Sts., Buffalo, N. Y.

Maimin Co., H., 251 W. 19th St., New York, N. Y.

U. S. Cloth Cutting Machine Co., 133 W. 23d St., New York, N. Y.

Wolf Machine Co., 306 E. Eighth St., Cincinnati, Ohio

MACHINES, Coil Impregnating
Complete Apparatus for Impregnating Windings with Insulating Compounds

Buffalo Foundry & Machine Co., 1543 Fillmore Ave., Buffalo, N. Y.

Devine Mfg. Co., J. P., Mt. Vernon, Ill

Stokes Machine Co., F. J., 5850 Tabor Rd., Olney P. O., Philadelphia, Pa.

Struthers-Wells Co., Warren, Pa.

MACHINES, Coil Winding
For Forming Coils by Machinery; for Companies furnishing Coils to Order—see Windings, Coil

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

Armature Coil Equipment Co., 2415 Forestdale Ave., Cleveland, Ohio

Comstock Mfg. Co., 319 Horton St., Wilkes-Barre, Pa.

Conran, Frederick M., 177 New York Ave., Newark, N. J. "Fremco"

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Peerless"

Fremco—see Conran, Frederick

General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.

General Transformer Corp., 910 W. Jackson Blvd., Chicago, Ill.

Hunt Electrical Mfg. Co., C. V., 4242 Hudson Blvd., Union City, N. J. "Rhoades"

MACHINES, Coil Winding (Continued)

Leesona—see Universal Winding Co.

Meissner Mfg. Co., 522 S. Clinton St., Chicago, Ill.

Peerless—see Electric Service Supplies Co.

Rhoades—see Hunt Electrical Mfg. Co.

Seifert, E. R., 315 E. Washington St., Syracuse, N. Y.

Universal Winding Co., 95 South St., Boston, Mass., "Leesona"

Varley Duplex Magnet Co., 15 Exchange Pl., Jersey City, N. J.

Viking Tool & Machine Co., 751 65th St., Brooklyn, N. Y.
Cataloged on page 142

Weber & Scher Mfg. Co., 263 Sussex Ave., Newark, N. J. "Webscher"

Webscher—see Weber & Scher Mfg. Co.

MACHINES, Commutator Grinding—

see **Grinders,** Commutator

MACHINES, Concrete Surfacing

Motor Driven Finishing Machines for use in Removing Board Marks, etc., from Concrete

Berg—see Concrete Surfacing Machinery Co.

Concrete Surfacing Machinery Co., 4669 Spring Grove Ave., Cincinnati, Ohio "Berg"

MACHINES, Electric Blueprinting

Vertical and Horizontal Types of Motor Driven Blueprinting Machines

Paragon-Revolute Corp., 77 South Ave., Rochester, N. Y.

Pease Co., C. F., 821 N. Franklin St., Chicago, Ill.

Shaw Blue Print Machine Co., 11 Campbell St., Newark, N. J.

Wickes Bros., 512 N. Water St., Saginaw, Mich.

MACHINES, Electric Erasing

Motor Driven Erasers for use in Drafting Rooms, etc.

Elgar—see Linick, Green & Reed

Linick, Green & Reed, 10 S. Wabash Ave., Chicago, Ill. "Elgar"

Seymour & Co., Charles F., 67 W. Susquehanna Rd., Abington, Pa.

Weil & Co., J. H., 1315 Cherry St., Philadelphia, Pa.

MACHINES, Electric Household Sewing

Motor Driven Sewing Machines for Household use

Domestic—see White Sewing Machine Co.

Free Sewing Machine Co., 18th Ave. & 13th St., Rockford, Ill.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

National Sewing Machine Co., Belvidere, Ill.

Singer Sewing Machine Co., 149 Broadway, New York, N. Y.

Standard Sewing Machine Co., Cedar Ave. & 65th St., Cleveland, Ohio

White Sewing Machine Co., Main & Elm Sts., Cleveland, Ohio. "Domestic"

Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

MACHINES, Electric Key Cutting

Motor Driven Key Making Machines for Filing Cylinder and Flat Keys

Beisser Key Machine Co., 407 E. Fort St., Detroit, Mich.

MACHINES, Exercising—

see **Exercisers,** Electric

MACHINES, Eyelet Setting

Hand or Power Machines for Setting Eyelets, Grommets, etc.

Baird Machine Co., Bridgeport, Conn.

Peerless Machinery Co., 44 Binford St., Boston, Mass.

Stimpson Co., Edwin B., 70 Franklin Ave., Brooklyn, N. Y.

MACHINES, Floor Finishing

Motor Driven Appliances for Scrubbing, Waxing, Sanding or Refinishing Floors; for Hand Sanding Machines—see Sanders, Electric Hand

Ability Floor Surfacing Machine Co., 7 Woodworth St., Dorchester, Mass.

American Floor Surfacing Machine Co., 518 S. St. Clair St., Toledo, Ohio

Boyle Co., A. S., 1944 Dana Ave., Cincinnati, Ohio. "Old English"

Campbell Machine Co., 39 Hayward St., Wollaston, Mass.

Clarke Sanding Machine Co., 3815 Cortland St., Chicago, Ill.

Connersville—see United Vacuum Appliance Corp.

Dodge, Inc., H. C., 46 Alger St., Boston, Mass. "G-H-N"

E-Z—see Herr Mfg. Co.

Electric Rotary Machine Co., 3825 W. Lake St., Chicago, Ill. "Free-O-Dust"

Fay Co., 11 E. 31st St., New York, N. Y.

Finnell System, Inc., Elkhart, Ind.

Floorolo Corp., 480 Salem Ave., York, Pa.

Free-O-Dust—see Electric Rotary Machine Co.

G-H-N—see Dodge, Inc.

Herr Mfg. Co., John, 44 N. Fourth St., Philadelphia, Pa. "E-Z"

Hild Floor Machine Co., 108 W. Lake St., Chicago, Ill.

Johnson & Son, S. C., Racine, Wis.

Kelly Electric Machine Co., 285 Hinman Ave., Buffalo, N. Y.

Kent Co., 131 Canal St., Rome, N. Y.
Cataloged on page 129

Kintzing Loom Mfg. Co., E. Middle St., Hanover, Pa. "Woods"

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Lincoln-Schlueter Machinery Co., 219 W. Grand Ave., Chicago, Ill.

Merritt Electric Floor Machine Co., 235 Greenwich St., New York, N. Y.

National Sanding Machine Co., 4353 Avondale Ave., Chicago, Ill.

Nedco—see Warren Mfg. Co.

Old English—see Boyle Co.

Ponsell Floor Machine Co., 230 W. 19th St., New York, N. Y.

Porter-Cable Machine Co., 1708 N. Salina St., Syracuse, N. Y.

Regina Corp., Cherry St., Rahway, N. J.

Reid-Way Co., 752 N. 16th St., Cedar Rapids, Iowa

Sweeper-Vac—see Wright Co., M. S.

United Vacuum Appliance Corp., Connersville, Ind. "Connersville"

Universal—see Landers, Frary & Clark

Warren Mfg. Co., C., Natick, Mass. "Nedco"

Woods—see Kintzing Loom Mfg. Co.

Wright Co., M. S., 164 Fremont St., Worcester, Mass. "Sweeper-Vac"

MACHINES, Grommet Setting—

see **Machines,** Eyelet Setting

MACHINES, Hand Sanding—

see **Sanders,** Electric Hand

MACHINES, Incandescent Lamp Making

For Lamp Parts—see Bases, Incandescent Lamp—also Bulbs, Incandescent Lamp—see also Filaments, Incandescent Lamp

General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.

York Electric & Machine Co., 34 N. Penn St., York, Pa.

MACHINES, Insulation Charge Measuring

Machines for Measuring Charges of Insulating Material preparatory to Hot Molding

Stokes Machine Co., F. J., 5850 Tabor Rd., Olney P. O., Philadelphia, Pa.

MACHINES, Ironing—

see **Ironers,** Electric Household

MACHINES, Joist Boring

Geared Hand Operated Machines for Boring Holes in Ceiling Joists; for Machines for Drilling Holes in Masonry—see Drills, Hammer and Spring

Bondy Boring Machine Co., 194 Burke Ave., River Rouge, Mich.

Bowlus Mfg. Co., 600 E. Main St., Springfield, Ohio.

Henderson Electric Co., Ampere, N. J.

Hykon Mfg. Co., 163 E. State St., Alliance, Ohio.

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill. (Selling Agent)
Cataloged on page 139

Jones Tool Co., L. W., 2382 Grand Concourse, New York, N. Y.

Millers Falls Co., Millers Falls, Mass.

MACHINES, Kitchen Appliance Operating

Household Power Unit Appliances for Operating Mixers, Whippers, Choppers, Freezers, etc—see also Mixers and Whippers, Household Type

Do-All Appliance Corp., 77 W. Mohawk St., Buffalo, N. Y. "Kitchen Kaddie"

Gem Appliances, Inc., 280 Madison Ave., New York, N. Y.

Hoe Corp., Poughkeepsie, N. Y. "Merryway"

Kitchen Aid Mfg. Co., Troy, Ohio

Kitchen Kaddie—see Do-All Appliance Corp.

Merryway—see Hoe Corp.

Speedway Mfg. Co., 1834 S. 52d Ave., Cicero, Ill.

MACHINES, Plastic Molding

Apparatus for Molding Plastic Compounds by Pressure

Burroughs Co., 246 N. Tenth St., Newark, N. J.

Dunning & Boschert Press Co., 329 W. Water St., Syracuse, N. Y.

Elmes Engineering Works, Charles F., 237 N. Morgan St., Chicago, Ill.

Hydraulic Press Mfg. Co., Mount Gilead, Ohio

Southwark Foundry & Machine Co., 430 Washington Ave., Philadelphia, Pa.

Terkelsen Machine Co., 326 A St., Boston, Mass.

MACHINES, Reducing—

see **Exercisers,** Electric

MACHINES, Rivet Heating—

see **Heaters,** Rivet

MACHINES, Rotor Balancing

Machines for Testing Rotors for Static and Dynamic Balances

Armature Coil Equipment Co., 2415 Forestdale Ave., Cleveland, Ohio.

Bowsher Co., N. P., South Bend, Ind.

Olsen Testing Machine Co., Tinius, 500 N. 12th St., Philadelphia, Pa.

Vibration Specialty Co., 1534 Winter St., Philadelphia, Pa.

MACHINES, Screwdriving—

see **Screwdrivers,** Electric Bench Type

MACHINES, Wax Sealing

Electrically Heated Machines for Sealing Letters or Packages with Wax

Electric Sealing Machine Corp., 150 Varick St., New York, N. Y.

Vulcan Electric Heating Co., 225 Varick St., New York, N. Y.

MACHINES, Welding—

see **Welders,** Arc

MACHINES, Wire Braiding and Taping

Machines for Applying Fabrics or Metal Braiding around a Wire or Cable

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

New England Butt Co., 304 Pearl St., Providence, R. I.

Textile Machine Works, Reading, Pa.

Wardwell Braiding Machine Co., Central Falls, R. I.

MACHINES, Wire Drawing

Machines for Forming Wire; for Wire Stranding Machines—see Machines, Wire Stranding

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.

Richard Mfg. Co., Bloomsburg, Pa.

Sleeper & Hartley, 335 Chandler St., Worcester, Mass.

Torrington Mfg. Co., 44 Franklin St., Torrington, Conn.

Vaughn Machinery Co., Cuyahoga Falls, Ohio

Wire Machinery Corp. of America, New Haven, Conn.

MACHINES, Wire End Stripping

Machines designed to strip the Insulation from the Ends of Wires and Cables

Carlander, Henry, 508 W. 146th St., New York, N. Y.

Colonial-Premier Co., 225 W. Ohio St., Chicago, Ill.

Foley Saw Tool Co., 9 Main St., Minneapolis, Minn.

France Mfg. Co., 10321 Berea Rd., Cleveland, Ohio

Morkrum-Kleinschmidt Corp., 1410 Wrightwood Ave., Chicago, Ill.

Wire Stripper Co., Erie Bldg., Cleveland, Ohio

Zierick Machine Works, F. R., 72 E. 131st St., New York, N. Y.

MACHINES, Wire Insulating

Machines for Insulating Wires or Cables with Enamel or Rubber; for Taping and Braiding Machines—see Machines, Wire Braiding and Taping

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.

Royle & Sons, John, Straight & Essex Sts., Paterson, N. J.

Wire Machinery Corp. of America, New Haven, Conn.

MACHINES, Wire Measuring

Wire Winding Racks equipped with Meters for Measuring Length

Artos Engineering Co., 175 Brown St., Milwaukee, Wis.

Durant Mfg. Co., 665 Buffum St., Milwaukee, Wis.

Minneapolis Electric & Construction Co., 80 S. 12th St., Minneapolis, Minn.

New England Butt Co., 304 Pearl St., Providence, R. I.

Textile Machine Works, Reading, Pa.

Viking Tool & Machine Co., 751 65th St., Brooklyn, N. Y.
Cataloged on page 142

Waldman, John J., 64 Murray St., New York, N. Y.

MACHINES, Wire Polishing

Machines for Polishing or Burnishing the Insulation on Weatherproof Wires

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

New England Butt Co., 304 Pearl St., Providence, R. I.

MACHINES, Wire Spooling

Machines for Winding Wire on Wood or Metal Spools; for Coil Winding Machines—see Machines, Coil Winding

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

Emory Co., Robert J., Sherman Ave. & Runyon St., Newark, N. J.

Torrington Mfg. Co., 44 Franklin St., Torrington, Conn.

Viking Tool & Machine Co., 751 65th St. Brooklyn, N. Y.
Cataloged on page 142

MACHINES, Wire Stranding

Machines for Stranding Individual Wires into Cables

Emory Co., Robert J., Sherman Ave. & Runyon St., Newark, N. J.

Haskell-Dawes Machine Co., Ontario St., below Trenton Ave., Philadelphia, Pa.

New England Butt Co., 304 Pearl St., Providence, R. I.

Torrington Mfg. Co., 44 Franklin St., Torrington, Conn.

Wire Machinery Corp. of America, New Haven, Conn.

MACHINIST'S HAMMERS—

see **Hammers,** Machinist's

MACHINIST'S VISES—

see **Vises,** Machinist's and Bench

MAGNET CHARGERS—

see **Chargers,** Magnet

MAGNET WIRE—

see **Wire,** Asbestos Covered Magnet
also **Wire,** Cotton or Silk Covered Magnet
also **Wire,** Enameled Magnet
also **Wire,** Paper Covered Magnet

MAGNET WIRE, Paper Covered—

see **Wire,** Paper Covered Magnet

MAGNETIC CONTACTORS—

see **Switches,** Magnetic

MAGNETIC FLASHERS—

see **Flashers,** Magnetic

MAGNETIC FLUX METERS—

see **Permeameters**

MAGNETIC RECTIFIERS—

see **Rectifiers,** Battery Charging Vibrator or Mechanical

MAGNETIC SWITCHES—

see **Switches,** Magnetic

MAGNETIZERS—

see **Chargers,** Magnet

MAGNETO TUBING—

see **Tubing,** Varnished or Oiled Fabric

MAGNETOS, Telephone—

see **Generators,** Magneto

MAGNETOS, Testing—

see **Generators,** Magneto

MAGNETS, Permanent

Concerns Manufacturing Magnets according to Sketches or Specifications

Bullens Co., D. K., Madison St., Pottstown, Pa.

Indiana Steel Products Co., 4545 S. Western Blvd., Chicago, Ill.

NE—see Thomas & Skinner Steel Products Co.

Rogers Drop Forging Co., 42 Frank St., Worcester, Mass.

Shunk Mfg. Co., Bucyrus, Ohio

Thomas & Skinner Steel Products Co. 1120 E. 23d St., Indianapolis, Ind. "NE"

MAIL BOXES—

see **Boxes,** Letter and Bell

MALLEABLE IRON CASTINGS—

see **Castings,** Malleable Iron

MANGLES—

see **Ironers,** Electric Household

MARBLE, Barrier and Slab

For use as Switchboards, Arc-Preventive Barriers, Switchbases, etc.

Vermont Marble Co., Proctor, Vt.

MARBLE SLABS—

see **Marble,** Barrier and Slab

MARKERS, Electric Tool

Instruments for Etching on Metals

Brewster Co., Wm., 50 Church St., New York, N. Y. "Etchograph"

Etchograph—see Brewster Co.

Luma Electric Equipment Co., 909 Prospect Ave., Toledo, Ohio

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

MARLINE TWINE—

see **Twine,** Marline

MASSAGE VIBRATORS—

see **Vibrators,** Electric Massage

MAST ARMS for STREET LAMPS—

see **Fixtures,** Street Lighting Pole Bracket

MASTER CLOCKS—

see **Clocks,** Electric Master and Secondary

MATS, Flush Switch Plate

Mats of Molded Hard Wood or Rubber for Mounting under Flush Plates

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegemann Electric Co.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

MATS, Rubber—

see **Mats,** Flush Switch Plate

MATS, Wood—

see **Mats,** Flush Switch Plate

MATTING, Contact—

see **Switches,** Burglar Alarm

MAXIMUM LOAD CONTROLLERS—

see **Relays,** Demand Limiting

MEASURING MACHINES, Insulation Charge—

see **Machines,** Insulation Charge Measuring

MECHANICAL RECTIFIERS—

see **Rectifiers,** Battery Charging

MEDICAL BATTERIES—

see **Batteries,** Medical

MEDIUM RECEPTACLES—

see **Receptacles,** Metal Shell Medium
also **Receptacles,** Porcelain Medium

MEDIUM SOCKETS—

see **Sockets,** Composition Medium
also **Sockets,** Metal Shell Medium
also **Sockets,** Porcelain Medium

MEGOHMMETERS—

see **Ohmmeters**
also **Sets,** Insulation Testing

MELTING LADLES—

see **Pots,** Electric Melting

MELTING POTS—

see **Pots,** Electric Melting

MERCURY CONTACT TUBES—

see **Tubes,** Mercury Contact

MERCURY SWITCHES—

see **Tubes,** Mercury Contact

MERCURY VAPOR LAMPS—

see **Lamps,** Mercury Vapor

METAL BINDING POSTS—

see **Posts,** Binding

METAL GEARS—

see **Gears and Pinions,** Metal

METAL METER BOARDS—

see **Boards,** Metal Meter

METAL MOLDING—

see **Molding,** Ornamental Metal
also **Molding and Fittings,** Metal

METAL PINIONS—

see **Gears and Pinions,** Metal

METAL REFLECTORS—

see **Shades,** Metal and Glass

METAL SHADES—

see **Shades,** Metal and Glass

METAL SHEARS—

see **Shears,** Motor Driven Metal

METAL SHELL RECEPTACLES—

see **Receptacles,** Metal Shell Candelabra or Miniature
also **Receptacles,** Metal Shell Medium
also **Receptacles,** Metal Shell Mogul

METAL SHELL SOCKETS—

see **Sockets,** Metal Shell Candelabra or Miniature
also **Sockets,** Metal Shell Medium
also **Sockets,** Metal Shell Mogul

METAL STAMPINGS—

see **Stampings,** Metal

METAL, Thermostatic

Bimetallic Sheets or Strips for use in Thermostatic Temperature Controlled Apparatus

Chace Valve Co., W. M., 1600 Beard Ave., Detroit, Mich.

Coffin Mfg. Co., B. F., 30 Court St., Newark, N. J.

Cook Plate Co., Edward N., 70 Ship St., Providence, R. I.

General Plate Co., Attleboro, Mass.

Interstate Products Corp., 503 Mulberry St., Newark, N. J.

Wilco—see Wilson Co.

Wilson Co., H. A., 97 Chestnut St., Newark, N. J. "Wilco"

METER BOARDS, METAL—

see **Boards,** Metal Meter

METER READING RECORDERS—

see **Recorders,** Meter Reading

METER SEALING FITTINGS—

see **Rods and Fittings,** Meter Sealing

METER SEALS—

see **Seals,** Meter

METER SERVICE BOXES—

see **Boxes,** Meter Service

METER SERVICE SWITCHES—

see **Boxes,** Meter Service

METER TEST BLOCKS—

see **Instruments,** Meter Testing

METER TEST SWITCHES—

see **Instruments,** Meter Testing

METER TESTING RHEOSTATS—

see **Rheostats,** Meter Testing

METERING TRANSFORMERS—

see **Transformers,** Instrument

METERS, Ampere—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

METERS, Ampere-Hour

Instruments for Recording Time Flow of Current

General Electric Co., 1 River Rd., Schenectady, N. Y.

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

METERS, Demand

Recording and Indicating Instruments for Measuring Sustained Power Load

Duncan Electric Mfg. Co., S. Third St., Lafayette, Ind.

Esterline-Angus Co., (Speedway City) Indianapolis, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Lincoln Meter Co., Springfield, Ill.

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

METERS, Earth Current—

see **Sets,** Electrical Testing

METERS, Foot Candle—

see **Photometers**

METERS, Frequency

Resonance, Induction and Electromagnetic Types

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Frahm"

Bristol Co., Waterbury, Conn.

Esterline-Angus Co., (Speedway City) Indianapolis, Ind.

Frahm—see Biddle, James G.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

Roller-Smith Co., 11 Barclay St., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

METERS, Ground Resistance—

see **Sets,** Electrical Testing

METERS, Insulation Test—

see **Sets,** Insulation Testing

METERS, Kilovolt-Ampere

Instruments for Totalizing the Vector Sum of Reactive and Power Components with or without Integrating the Resultant Power Factor; for Power Factor Meters—see Meters, Power Factor

Esterline-Angus Co., (Speedway City) Indianapolis, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

METERS, Magnetic Flux—

see **Permeameters**

METERS, Ohm—

see **Ohmmeters**

METERS, Power Factor

Instruments for Indicating Power Factors; for Kilovolt-Ampere Meters—see Meters, Kilovolt-Ampere

Esterline-Angus Co., (Speedway City) Indianapolis, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.

Roller-Smith Co., 11 Barclay St., New York, N. Y.

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

METERS, Rotating Standard—

see **Meters,** Watt-Hour Testing

METERS, Volt—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

METERS, Watt—

see **Wattmeters**

METERS, Watt-Hour Service

For Installation on Consumer's Premises or for Switchboard use

Duncan Electric Mfg. Co., S. Third St., Lafayette, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

METERS, Watt-Hour Testing

Portable A. C. and D. C. Types for Testing

Duncan Electric Mfg. Co., S. Third St., Lafayette, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

METERS, Wire Measuring—

see **Machines,** Wire Measuring

MICA

Mica, Sheet, Rod and Tube—also Companies Producing Mica Punchings and Pressings

Asheville Mica Co., Biltmore, N. C.

Brand & Co., William, 268 Fourth Ave., New York, N. Y.

Chicago Mica Co., 525 Campbell St., Valparaiso, Ind. "Micabond"

Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.

Erwin Feldspar Co., Trenton, N. J.

Granite State Mica Co., 89 Spring St., Watertown, Mass.

Hirsch Mica Co., 1087 Flushing Ave., Brooklyn, N. Y.

Huse-Liberty Mica Co., 73 Long Wharf, Boston, Mass.

Imico—see International Mica Co.

International Mica Co., 37th & Brandywine Sts., Philadelphia, Pa. "Imico"

Macallen Co., 25 Macallen St., Boston, Mass.
Cataloged on page 153

Mica Co. of Canada, Massena, N. Y.

Mica Insulator Co., 200 Varick St., New York, N. Y. "Micanite"
Cataloged on pages 154-155

Mica Mfg. Co., 135 Johnson St., Brooklyn, N. Y.

Micabond—see Chicago Mica Co.

Micanite—see Mica Insulator Co.

Munsell & Co., Eugene, 200 Varick St., New York, N. Y.

New England Mica Co., Waltham 54, Waltham, Mass.

New Hampshire Mica & Mining Co., Keene, N. H.

Richmond Mica Co., 323 S. Ninth St., Richmond, Va. "Silver Sheen"

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 42

Silver Sheen—see Richmond Mica Co.

Storrs Mica Co., 11 Park Pl., New York, N. Y.

Tar Heel Mica Co., Plumtree, N. C.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

MICA, Ground—

see **Mica**

MICA MOLDED PARTS—

see **Mica**

MICA, Plate—

see **Mica**

MICA PUNCHINGS—

see **Mica**

MICA, Sheet—

see **Mica**

MICA TAPE—

see **Tape,** Varnished or Oiled

MICA TUBING—

see **Mica**

MICA UNDERCUTTERS—

see **Slotters,** Commutator

MICA WASHERS—

see **Mica**

MICRO-AMMETERS—

see **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

MILK WARMERS—

see **Pots,** Electric Cooking

MILL TYPE MOTORS—

see **Motors,** A. C. Slip-Ring
also **Motors,** A. C. Squirrel-Cage
also **Motors,** D. C. Compound

MILLIAMETERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

MILLING CUTTERS, Commutator—

see **Saws,** Commutator Slotting

MILLI-VOLTMETERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

MINIATURE RECEPTACLES—

see **Receptacles,** Metal Shell Candelabra or Miniature
also **Receptacles,** Porcelain Candelabra or Miniature

MINIATURE SOCKETS—

see **Sockets,** Composition Candelabra or Miniature
also **Sockets,** Metal Shell Candelabra or Miniature
also **Sockets,** Porcelain Candelabra or Miniature

MINING MACHINE CABLE—

see **Cable,** Concentric

MINING MACHINE CORD—

see **Cord,** Rubber Sheathed

MIRRORED GLASS REFLECTORS—

see **Shades,** Metal and Glass

MIRRORS, Illuminated Shaving

Bull Dog Floor Clip Co., 108 N. First Ave., Winterset, Iowa "Lux-O-Lite"

Edge-Lite—see Henkel Mfg. Co.

Henkel Mfg. Co., 122 S. Michigan Blvd., Chicago, Ill. "Edge-Lite"

Lux-O-Lite—see Bull Dog Floor Clip Co.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Reed & Barton, Taunton, Mass. "Spot-Light"

Spot-Light—see Reed & Barton

MIXERS, Impregnating Compound—

see **Machines,** Coil Impregnating

MIXERS, Portable Commercial

Motor Operated Paddles for Mixing Fluids

Lightnin—see Mixing Equipment Co.

Mixing Equipment Co., 1024 Garson Ave., Rochester, N. Y. "Lightnin"

Simmonds Co., 2726 26th St., Sacramento, Cal.

MIXERS and WHIPPERS, Commercial Type

Large Capacity Motor Driven Machines for Mixing Food Stuffs; for Small Capacity Mixers and Whippers—see Mixers and Whippers, Household Type

Alsop Engineering Co., 39 W. 60th St., New York, N. Y. "Hy-Speed"

Hobart Mfg. Co., Pennsylvania Ave., Troy, Ohio

Hy-Speed—see Alsop Engineering Co.

Nedco—see Warren Mfg. Co.

Reco—see Reynolds Electric Co.

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"

Warren Mfg. Co., C., Natick, Mass. "Nedco"

MIXERS and WHIPPERS, Household Type

Motor Driven Machines for Mixing Food Stuffs—see also Machines, Kitchen Appliance Operating

Arnold Electric Co., 1220 Washington Ave., Racine, Wis.

Coolee Mfg. Co., Sandusky, Ohio. "O'Kay"

Dormeyer Mfg. Co., A. F., 2640 Greenview Ave., Chicago, Ill.

Eskimo—see United Electrical Mfg. Co.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Gem Appliances, Inc., 280 Madison Ave., New York, N. Y.

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Hamilton Beach Mfg. Co., 1501 Rapids Dr., Racine, Wis.

Holwick, B. C., 104 S. Market Ave., Canton, Ohio

MIXERS and WHIPPERS, Household Type (Continued)

Kitchen Aid Mfg. Co., Troy, Ohio
Made-Rite Mfg. Co., Sandusky, Ohio
O'Kay—see Coolee Mfg. Co.
Polar Cub—see Gilbert Co.
Star-Rite—see Fitzgerald Mfg. Co.
United Electrical Mfg. Co., Logan St., Adrian, Mich. "Eskimo"
Wahl Clipper Corp., Sterling, Ill.

MOGUL RECEPTACLES—

see **Receptacles,** Metal Shell Mogul
also **Receptacles,** Porcelain Mogul

MOGUL SOCKETS—

see **Sockets,** Composition Mogul
also **Sockets,** Metal Shell Mogul
also **Sockets,** Porcelain Mogul
also **Sockets,** Weatherproof

MOISTURE PROOF FIXTURES—

see **Fixtures,** Vaporproof

MOLDED BAKELITE—

see **Insulation,** Molders of Composition

MOLDED INSULATION GEARS—

see **Insulation,** Molders of Composition

MOLDED INSULATION PINIONS—

see **Insulation,** Molders of Composition

MOLDERS OF INSULATION—

see **Insulation,** Molders of Composition
also **Porcelain,** Molders of

MOLDING COMPOUNDS—

see Compounds, Molding

MOLDING, Ground Wire—

see Molding, Wood

MOLDING MACHINES—

see **Machines,** Plastic Molding

MOLDING, Metal—

see Molding, Ornamental Metal
also Molding and Fittings, Metal

MOLDING, Ornamental Metal Raceway

Special Molded Steel Base or Cornice Molding with Space to be used as Raceways

Dahlstrom Metallic Door Co., Buffalo & E. Second Sts., Jamestown, N. Y.
Knapp Brothers Mfg. Co., 605 W. Washington Blvd., Chicago, Ill. "Wyr-Way"
United Metal Products Co., 2647 Navarre Rd., S. W., Canton, Ohio
Wyr-Way—see Knapp Bros. Mfg. Co.

MOLDING PLATES—

see **Mica**

MOLDING, Wood

Grooved Wood Strips for Protecting Lighting or Ground Wires; for Metal Molding—see Molding and Fittings, Metal

Black Beauty—see Texas Creosoting Co.
Mitchell Moulding Co., 1501 Circle Ave., Forest Park, Ill. "Wire Grip"
Peshtigo Building Supply Co., Peshtigo, Wis.
Texas Creosoting Co., Orange, Tex. "Black Beauty"
Wire Grip—see Mitchell Moulding Co.

MOLDING and FITTINGS, Metal

Metal Raceway and Fittings for use in Interior Wiring; for Ornamental Metal Molding and Fittings—see Molding, Ornamental Metal

Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich. "Pro-duct"
Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "CurtiStrip" "X-Ray"
CurtiStrip—see Curtis Lighting
Fiberduct—see General Electric Co.
General Electric Co., Bridgeport, Conn. "Fiberduct"
Cataloged on page 65
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.
Oamco—see Overbagh & Ayres Mfg. Co.
Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"
Pro-duct—see Bull Dog Electric Products Co.
Square D Co., 6060 Rivard St., Detroit, Mich. "Square-Duct"
Square-Duct—see Square D Co.
Walker Bros., 1417 Sansom St., Philadelphia, Pa.
Wiremold Co., (Elmwood) Hartford, Conn.
X-Ray—see Curtis Lighting

MOMENTARY CONTACT SWITCHES—

see Switches, Momentary Contact

MOTOR CONTROLLERS—

see **Controllers**

MOTOR COMMUTATORS—

see **Commutators,** Complete

MOTOR DRIVEN SCREW-DRIVERS—

see **Screwdrivers,** Electric Bench Type

MOTOR-GENERATORS, Battery Charging

Direct Coupled Motor-Generator Sets for use in Charging Batteries

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.
Cleveland Electric Motor Co., 5213 Windsor Ave., Cleveland, Ohio
Connecticut Dynamo & Motor Co., Lyons Ave. & Coit St., Irvington, N. J.
Continental Electric Co., 323 Ferry St., Newark, N. J.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Electric Products Co., 1725 Clarkstone Rd., Cleveland, Ohio
Electric Specialty Co., 211 South Ave., Stamford, Conn. "Esco"
Electro Dynamic Co., Bayonne, N. J.
Esco—see Electric Specialty Co.
Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hobart Bros. Co., 113 Water St., Troy, Ohio
Ideal Electric & Mfg. Co., Mansfield, Ohio
Imperial Electric Co., 64 Ira Ave., Akron, Ohio
Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio
Kendrick & Davis Co., Lebanon, N. H.
Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"
Marble-Card Electric Co., Gladstone, Mich.
OK—see Marathon Electric Mfg. Co.
Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio
Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio
Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio
Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTOR-GENERATORS, Current Supply

Electric Generators driven by an Electric Motor; for Battery Charging Motor-Generator Sets—see Motor-Generators, Battery Charging

Actodector—see Roth Bros. & Co.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.
Armor Electric Mfg. Co., 1020 Holland St., Erie, Pa.
Bodine Electric Co., 2258 W. Ohio St., Chicago, Ill.
Bogue Electric Co., Chas. J., 132 King St., New York, N. Y.
Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.
Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.
Connecticut Dynamo & Motor Co., Lyons Ave. & Coit St., Irvington, N. J.
Continental Electric Co., 323 Ferry St., Newark, N. J.
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
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Eager Electric Co., 522 Newell St., Watertown, N. Y.
Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio
Electric Specialty Co., 211 South Ave., Stamford, Conn. "Esco"
Electro Dynamic Co., Bayonne, N. J.
Elliott Co., Frick Bldg., Jeannette, Pa.
Esco—see Electric Specialty Co.
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.
Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Green Electric Co., W., 182 Broadway, New York, N. Y.
Hanson-Van Winkle-Munning Co., Matawan, N. J.
Ideal Electric & Mfg. Co., Mansfield, Ohio
Imperial Electric Co., 64 Ira Ave., Akron, Ohio.
Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on page 92
Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio
Leland Electric Co., Leo & Webster Sts., Dayton, Ohio
Cataloged on page 94
Marble-Card Electric Co., Gladstone, Mich.
Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.
Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio
Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill. "Actodector"
Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.
U. S. Galvanizing & Plating Equipment Corp., 32 Stockton St., Brooklyn, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTOR LEAD CABLE—

see **Wire,** Rubber Covered and Braided

MOTOR STARTERS, Cutout—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

MOTOR STARTING COMPENSATORS—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

MOTOR STARTING RHEOSTATS—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

MOTOR STEEL—

see **Steel,** Silicon Sheet

MOTORS, A. C. Repulsion

Single-Phase Repulsion Induction Motors; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Advance Electric Co., 6315 Maple Ave., St Louis, Mo.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

American Electric Motor Co., Cedarburg, Wis.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Continental Electric Co., 323 Ferry St., Newark, N. J.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Electric Specialty Co., 211 South Ave., Stamford, Conn. "Esco"

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Esco—see Electric Specialty Co.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Jeannin Electric Co., Fassett St. & N. Y. C. R.R., Toledo, Ohio

Kimble Electric Co., 646 N. Western Ave., Chicago, Ill.

LE—see Leland Electric Co.

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio "LE"
Cataloged on page 94

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.

OK—see Marathon Electric Mfg. Co.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Union Electric Motor Mfg. Co., 1530 Hancock St., Philadelphia, Pa.

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio. "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

MOTORS, A. C. Slip-Ring

Polyphase Induction Motors having a Wound Rotor with Slip-Rings; for Fractional Horsepower Motors — see Motors, Fractional Horsepower

Advance Electric Co., 6315 Maple Ave., St. Louis, Mo.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

American Electric Motor Co., Cedarburg, Wis.

Armor Electric Mfg. Co., 1020 Holland St., Erie, Pa.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.

Cleveland Electric Motor Co., 5213 Windsor Ave., Cleveland, Ohio

Continental Electric Co., 323 Ferry St., Newark, N. J.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull and First Sts., Elizabethport, N. J.
Cataloged on page 84

Electro Dynamic Co., Bayonne, N. J.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Fynn Weichsel—see Wagner Electric Corp.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Howell Electric Motors Co., Howell, Mich. "Red Band"

Ideal Electric & Mfg. Co., Mansfield, Ohio

Imperial Electric Co., 64 Ira Ave., Akron, Ohio

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio
Cataloged on page 94

Linc-Weld—see Lincoln Electric Co.

Lincoln Electric Co., Coit Rd. & Kirby Ave., Cleveland, Ohio. "Linc-Weld"

Marble-Card Electric Co., Gladstone, Mich.

Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.

Red Band—see Howell Electric Motors Co.

Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio

Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.

Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Triumph Electric Corp., 116 E. 70th St., (Carthage) Cincinnati, Ohio

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo. "Fynn Weichsel"

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio. "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTORS, A. C. Split-Phase

Single-Phase Induction Motors having an Auxiliary Starting Winding; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

OK—see Marathon Electric Mfg. Co.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTORS, A. C. Squirrel-Cage

Polyphase Induction Motors having Squirrel-Cage Type Rotors; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Advance Electric Co., 6315 Maple Ave., St. Louis, Mo.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

American Electric Motor Co., Cedarburg, Wis.

Armor Electric Mfg. Co., 1020 Holland St., Erie, Pa.

Autostart—see U. S. Electrical Mfg. Co.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.

Cleveland Electric Motor Co., 5213 Windsor Ave., Cleveland, Ohio

Continental Electric Co., 323 Ferry St., Newark, N. J.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Electric Specialty Co., 211 South Ave., Stamford, Conn. "Esco"

Electro Dynamic Co., Bayonne, N. J.

Esco—see Electric Specialty Co.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Forbes & Myers, 172 Union St., Worcester, Mass.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Howell Electric Motors Co., Howell, Mich. "Red Band"

Ideal Electric & Mfg. Co., Mansfield, Ohio

Imperial Electric Co., 64 Ira Ave., Akron, Ohio

LE—see Leland Electric Co.

MOTORS, A. C. Squirrel-Cage (Continued)

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio "LE"
Cataloged on page 94

Linc-Weld—see Lincoln Electric Co.

Lincoln Electric Co., Coit Rd. & Kirby Ave., Cleveland, Ohio. "Linc-Weld"

Marble-Card Electric Co., Gladstone, Mich.

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.

Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Red Band—see Howell Electric Motors Co.

Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.

Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Sunlight Electrical Mfg. Co., 523 Dana Ave., Warren, Ohio

Triumph Electric Corp., 116 E. 70th St., (Carthage) Cincinnati, Ohio

Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.

U. S. Electrical Mfg. Co., 200 E. Slauson Ave., Los Angeles, Cal. "Autostart"

Union Electric Motor Mfg. Co., 1530 Hancock St., Philadelphia, Pa.

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Warner—see Wigginton Co.

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio. "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

Wigginton Co., 434 N. Church St., Kalamazoo, Mich. "Warner"

Zobell Electric Motor Corp., Garwood, N. J.

MOTORS, A. C. Synchronous

Single and Polyphase Constant Speed Motors; for Synchronous Generators—see Generators, A.C. Synchronous; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Advance Electric Co., 6315 Maple Ave. St. Louis, Mo.

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio

Electric Machinery Mfg. Co., 1331 N. E. Tyler St., Minneapolis, Minn.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Great Lakes Electric Mfg. Co., 655 N. Kedzie Ave., Chicago, Ill.

Ideal Electric & Mfg. Co., Mansfield, Ohio

Martin—see Northwestern Electric Co.

Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill. "Martin"

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTORS, Adjustable Speed—

see **Motors**, D. C. Compound
also **Motors**, D. C. Shunt

MOTORS, Ball or Roller Bearing

Covering only Companies Cataloging this Product

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Dumore Co., 93 16th St., Racine, Wis.
Cataloged on page 86

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio
Cataloged on page 94

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

MOTORS, Battery—

see **Toys**, Electric

MOTORS, Condenser—

see **Motors**, A. C. Synchronous

MOTORS, Constant Speed—

see **Motors**, D. C. Compound
also **Motors**, D. C. Shunt

MOTORS, Crane—

see **Motors**, A. C. Slip-Ring
also **Motors**, D. C. Compound
also **Motors**, D. C. Series

MOTORS, D. C. Compound

Motors with both Shunt and Series Windings; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.

Continental Electric Co., 323 Ferry St., Newark, N. J.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio

Electro Dynamic Co., Bayonne, N. J.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on pages 89-90

Ideal Electric & Mfg. Co., Mansfield, Ohio

Imperial Electric Co., 64 Ira Ave., Akron, Ohio

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio

Kimble Electric Co., 646 N. Western Ave., Chicago, Ill.

LE—see Leland Electric Co.

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio "LE"
Cataloged on page 94

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

Marble-Card Electric Co., Gladstone, Mich.

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.

OK—see Marathon Electric Mfg. Co.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.

Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio. "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

MOTORS, D. C. Series

Motors with Field Winding in Series with the Armatures; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio

Electro Dynamic Co., Bayonne, N. J.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Ideal Electric & Mfg. Co., Mansfield, Ohio

Imperial Electric Co., 64 Ira Ave., Akron, Ohio

Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio

Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Reliance Electric & Engineering Co., 1054 **Ivanhoe Rd., Cleveland, Ohio**

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

MOTORS, D. C. Shunt

Motors when Field Winding is in Shunt with the Armatures; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

Allis Co., Louis, 133 Stewart St., Milwaukee, Wis.

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Chandeysson Electric Co., 4092 Bingham Ave., St. Louis, Mo.

Continental Electric Co., 323 Ferry St., Newark, N. J.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio

Electro Dynamic Co., Bayonne, N. J.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 89

Ideal Electric & Mfg. Co., Mansfield, Ohio

Imperial Electric Co., 64 Ira Ave., Akron, Ohio.

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Jantz & Leist Electric Co., Western Ave. & York St., Cincinnati, Ohio

Marble-Card Electric Co., Gladstone, Mich.

Northwestern Mfg. Co., 480 Clinton St., Milwaukee, Wis.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Rochester Electric Products Corp., 89 Allen St., Rochester, N. Y.

Roth Bros. & Co., 1400 W. Adams St., Chicago, Ill.

Star Electric Motor Co., Miller St. and N. J. R.R. Ave., Newark, N. J.

Troy Engine & Machine Co., 42 Vine St., St. Joseph, Mich.

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

Zobell Electric Motor Corp., Garwood, N. J.

MOTORS, Electric Phonograph

Complete Electric Drive with Turntable or Detachable Motors designed to wind Spring Motors

Arnold Electric Co., 1220 Washington Ave., Racine, Wis.

Gordon Co.—see Studner Bros.

Jones-Motrola, Inc., 370 Gerard Ave., New York, N. Y.

Rotor Corp. of America, 10 Norwood St., Dayton, Ohio

Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.

Studner Bros., 67 W. 44th St., New York, N. Y. (Sole Distributors for Gordon Co., L. S., Chicago, Ill.)

MOTORS, Fractional Horsepower

Small A.C. and D.C. Fractional Horsepower Motors

Advance Electric Co., 6315 Maple Ave., St. Louis, Mo.

American Electric Motor Co., Cedarburg, Wis.

B-Line—see Brown-Brockmeyer Co.

B & R Mfg. Co., 812 Lafayette St., Toledo, Ohio

Baldor Electric Co., 4370 Duncan Ave., St. Louis, Mo.
Cataloged on page 83

Bodine Electric Co., 2258 W. Ohio St., Chicago, Ill.

Brown-Brockmeyer Co., Norwood Power Bldg., Dayton, Ohio. "B-Line"

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Century Electric Co., 1806 Pine St., St. Louis, Mo.

Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.

Day-Fan Electric Co., Miami Chapel Rd., Dayton, Ohio

Diehl Mfg. Co., Trumbull & First Sts., Elizabethport, N. J.
Cataloged on page 84

Domestic Electric Co., Kent, Ohio
Cataloged on page 85

Dumore Co., 93 16th St., Racine, Wis.
Cataloged on page 86

Eck Electric Co., 14 Magazine St., Newark, N. J.

Electric Specialty Co., 211 South Ave., Stamford, Conn. "Esco"

Electro Dynamic Co., Bayonne, N. J.

Emerson Electric Mfg. Co., 2018 Washington Ave., St. Louis, Mo.

Esco—see Electric Specialty Co.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo.

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on pages 89-90

Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.

Howell Electric Motors Co., Howell, Mich. "Red Band"

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on pages 92-93

Jeannin Electric Co., Fassett St. & N.Y.C. R.R., Toledo, Ohio

Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal.

Kendrick & Davis Co., Lebanon, N. H.

Kimble Electric Co., 646 N. Western Ave., Chicago, Ill.

LE—see Leland Electric Co.

Leland Electric Co., Leo & Webster Sts., Dayton, Ohio "LE"
Cataloged on page 94

Liberty Electric Corp., Fairfield Ave., Stamford, Conn.

Linc-Weld—see Lincoln Electric Co.

Lincoln Electric Co., Coit Rd. & Kirby Ave., Cleveland, Ohio. "Linc-Weld"

Mando Co., State Tower Bldg., Syracuse, N. Y.

Marathon Electric Mfg. Co., 32 Island St., Wausau, Wis. "OK"

Marble-Card Electric Co., Gladstone, Mich.

Master Electric Co., Linden & Master Aves., Dayton, Ohio
Cataloged on page 95

Michigan Electric & Mfg. Co., Lake Linden, Mich.

Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.

OK—see Marathon Electric Mfg. Co.

Ohio Electric & Controller Co., 5910 Maurice Ave., Cleveland, Ohio

Peerless Electric Co., 740 W. Market St., Warren, Ohio

Reco—see Reynolds Electric Co.

Red Band—see Howell Electric Motors Co.

Reliance Electric & Engineering Co., 1054 Ivanhoe Rd., Cleveland, Ohio

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"
Cataloged on page 120

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Star Electric Motor Co., Miller St. & N. J. R.R. Ave., Newark, N. J.

Sturtevant Co., B. F., (Hyde Park) Boston, Mass.

Sunlight Electrical Mfg. Co., 523 Dana Ave., Warren, Ohio

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.

Warner—see Wigginton Co.

Welco—see Wesche Electric Co.

Wesche Electric Co., B. A., 1628 Vine St., Cincinnati, Ohio "Welco"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97

Wigginton Co., 434 N. Church St., Kalamazoo, Mich. "Warner"

Zobell Electric Motor Corp., Garwood, N. J.

MOTORS, Hoist—

see **Motors**, A. C. Slip-Ring
also **Motors**, D. C. Compound
also **Motors**, D. C. Series

MOTORS, Mill Type—

see **Motors**, A. C. Slip-Ring
also **Motors**, A. C. Squirrel-Cage
also **Motors**, D. C. Compound

MOTORS, Repulsion Induction—

see **Motors**, A. C. Repulsion

MOTORS, Sewing Machine

Small Motor Units with Special Bases for use in Driving Domestic Sewing Machines; for Fractional Horsepower Motors—see Motors, Fractional Horsepower

Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Hamilton Beach Mfg. Co., 1501 Rapids Drive, Racine, Wis.

Star-Rite—see Fitzgerald Mfg. Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

MOTORS, Toy—

see **Toys**, Electric

MOTORS, Universal—

see **Motors**, Fractional Horsepower

MOTORS, Vacuum Cleaner—

see **Motors**, Fractional Horsepower

MOTORS, Variable Speed—

see **Motors**, D. C. Series

MOTORS, Washing Machine—

see **Motors**, Fractional Horsepower

MOTORS, Wound Rotor—

see **Motors**, A. C. Slip-Ring

MOVEMENTS, Secondary Clock

Unmounted Secondary Clock Movements for Mounting in Instruments Clocks, etc.

Standard Electric Time Co., 89 Logan St., Springfield, Mass.

Telechron—see Warren Telechron Co.

Warren Telechron Co., 252 Main St., Ashland, Mass. "Telechron"

MOWERS, Electric Lawn

Lawn Mowers driven by Electric Motors

Cold Well Lawn Mower Co., Newburgh, N. Y.

Dodge, Inc., H. C., 46 Alger St., Boston, Mass. "Elvacut"

Elvacut—see Dodge, Inc.

MUFFLES, Electric Furnace—

see **Cores,** Refractory

MULTIBLADE FANS—

see **Blowers and Fans,** Centrifugal

MULTIPLE SOCKETS—

see **Sockets,** Multiple

MULTIPLIERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

NAILS, Insulated—

see **Staples,** Insulated

NAME PLATES—

see **Plates,** Name

NICKEL ALLOY CASTINGS—

see **Castings,** Nickel Alloy

NICKEL CHROME WIRE—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

NICKEL STEEL WIRE—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

NICKEL TUBING—

see **Tubing,** Brass or Copper

NICKEL WIRE—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

NIPPLES, Conduit—

see **Fittings,** Threaded Conduit

NIPPLES, Fixture—

see **Fittings,** Fixture

NON-METALLIC CONDUIT—

see **Conduit,** Flexible Non-Metallic

NON-METALLIC SHEATHED CABLE—

see **Cable,** Non-Metallic Sheathed

NOZZLES, Fixture—

see **Fittings,** Fixture

NUT SETTING MACHINES—

see **Screwdrivers,** Electric Bench Type

NUTS, Brass or Copper

Hexagonal or Square Brass or Copper Nuts; for Brass Thumb and Wing Nuts—see Nuts, Brass Thumb and Wing

American Hardware Corp., New Britain, Conn.

Barnes Co., Wallace, 30 Main St., Bristol, Conn.

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clendenin Bros., 108 South St., Baltimore, Md.

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Everitt Co., 264 Franklin St., Boston, Mass.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.
Cataloged on page 167

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Holtite—see Continental Wood Screw Co.

Namco—see National Acme Co.

National Acme Co., E. 131st St. at Coit Rd., Cleveland, Ohio "Namco"

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

New England Screw Co., 54 Farnsworth St., Boston, Mass.

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"
Cataloged on page 168

Promco—see Progressive Mfg. Co.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.

Steele & Johnson Mfg. Co., 779 S. Main St., Waterbury, Conn.

Western Automatic Machine Screw Co., Elyria, Ohio

NUTS, Brass Thumb and Wing

For Thumb and Wing Screws—see Screws, Iron Thumb and Wing

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Everitt Co., 264 Franklin St., Boston, Mass.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

NUTS, Castellated

For Iron or Steel Thumb and Wing Nuts—see Nuts, Iron Thumb and Wing; for Lock Nuts—see Nuts, Lock

American Hardware Corp., New Britain, Conn.

Brightman Nut & Mfg. Co., Sandusky, Ohio

Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.

Clark Bros. Bolt Co., Milldale, Conn.

Columbia Nut & Bolt Co., 1550 Railroad Ave., Bridgeport, Conn.

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Milton Mfg. Co., Milton, Pa.

Namco—see National Acme Co.

National Acme Co., E. 131st St. at Coit Rd., Cleveland, Ohio "Namco"

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Union Screw & Mfg. Co., 207 S. Main St., Pittsburgh, Pa.

Western Automatic Machine Screw Co., Elyria, Ohio.

Western Screw-Products Co., Main & St. George Sts., St. Louis, Mo.

NUTS, Copper—

see **Nuts,** Brass or Copper

NUTS, Iron or Steel

For Castellated Nuts—see Nuts, Castellated; for Iron or Steel Thumb and Wing Nuts—see Nuts, Iron Thumb and Wing

American Hardware Corp., New Britain. Conn.

Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clark Bros. Bolt Co., Milldale, Conn.

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Holtite—see Continental Wood Screw Co.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Milton Mfg. Co., Milton, Pa.

Namco—see National Acme Co.

National Acme Co., E. 131st St. at Coit Rd., Cleveland, Ohio "Namco"

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland. Ohio

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"
Cataloged on page 168

Promco—see Progressive Mfg. Co.

Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Truscon Steel Co., Youngstown, Ohio

Western Screw-Products Co., Main & St. George Sts., St. Louis, Mo.

NUTS, Iron Thumb and Wing

For Castellated Nuts—see Nuts, Castellated

Billings & Spencer Co., Laurel & Park Sts., Hartford, Conn.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clark Bros. Bolt Co., Milldale, Conn.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.

NUTS, Lock

For Castellated Nuts—see Nuts, Castellated; for Lock Washers—see Washers, Lock; for Conduit Locknuts—see Locknuts, Conduit

Columbia Nut & Bolt Co., 1550 Railroad Ave., Bridgeport, Conn. "Gib"

Dardelet Threadlock Corp., 120 Broadway, New York, N. Y.

Drake Lock Nut Co., 2440 E. 75th St., Cleveland, Ohio

Gib—see Columbia Nut & Bolt Co.

Palnut Co., 314 Coit St., Irvington, N. J.

NUTS, Steel—

see **Nuts,** Iron or Steel

NUTS, Thumb—

see **Nuts,** Brass Thumb and Wing
also **Nuts,** Iron Thumb and Wing

NUTS, Wing—

see **Nuts,** Brass Thumb and Wing
also **Nuts,** Iron Thumb and Wing

OBSTRUCTION LIGHTS—

see **Fixtures,** Airport Lighting

OFFICE WIRE—
see **Wire,** Cotton Covered and Paraffined

OHMMETERS
Instruments for Measuring Resistance—see also Sets, Electrical Testing—also Sets, Insulation Testing

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Meg" "Megger"
Borden Electric Co., 480 Broad St., Newark, N. J.
Cory & Son, Chas., 183 Varick St., New York, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"
Illinois Testing Laboratories, 141 W. Austin Ave., Chicago, Ill.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Meg—see Biddle, James G.
Megger—see Biddle, James G.
Pignolet Instrument Co., 76 Greenwich St., New York, N. Y.
Polymet Mfg. Corp., 829 E. 134th St., New York, N. Y.
Queen—see Gray Instrument Co.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.,
Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

OIL BATHS—
see **Baths,** Electric Tempering

OIL LAMP ADAPTERS—
see **Adapters,** Oil Lamp

OIL PROOF VARNISH—
see **Varnish,** Insulating

OILED CLOTH—
see **Fabrics,** Varnished or Oiled

OILED PAPER—
see **Fabrics,** Varnished or Oiled

OILED TAPE—
see **Tape,** Varnished or Oiled

OILS, Circuit Breaker—
see **Oils,** Transformer and Circuit Breaker

OILS, Transformer and Circuit Breaker
Insulating Oils for use in Circuit Breakers and in Transformers

Fiske Brothers Refining Co., 24 State St. New York, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Houghton & Co., E. F., 240 W. Somerset St., Philadelphia, Pa.
National Refining Co., National Bldg., Cleveland, Ohio
Pierce Petroleum Corp., 1709 Locust St., St. Louis. Mo.
Pure Oil Co., 35 Wacker Dr., Chicago, Ill.
Robinson & Son Co., Wm. C., Catherill & Dock Sts., Baltimore, Md.
Standard Oil Co., (Indiana) 910 S. Michigan Ave., Chicago, Ill.
Sullivan Oil Co., 413 N. Wells St., Chicago, Ill.
Sun Oil Co., 420 Lexington Ave., New York, N. Y. "Sunoco"
Sunoco—see Sun Oil Co.
Texas Co., 17 Battery Pl., New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

OPAL GLOBES—
see **Globes,** Ornamental

OPAL REFLECTORS—
see **Shades,** Metal and Glass

OPEN FACE PANELBOARDS—
see **Panelboards**

OPEN PHASE RELAYS—
see **Relays,** Current Control

OPENERS, Battery
Electric or Steam Heated Openers designed to soften the Sealing Compound in Storage Batteries

Battery Equipment & Supply Co., 7530 Greenwood Ave., Chicago, Ill. "Besco"
Besco—see Battery Equipment & Supply Co.
Miho Co., 717 Sycamore St., Cincinnati, Ohio

OPENERS, Door—
see **Openers,** Electromagnetic Door
also **Openers,** Motor Operated Door

OPENERS, Electromagnetic Door
Electromagnetic Armature Type Door Openers operating on Battery or Transformation Current

Bunnell & Co., J. H., 32 Park Pl., New York, N. Y.
Champion—see Standard Lock Co.
Edwards & Co., 140th & Exterior Sts. New York, N. Y.
Faraday—see Stanley & Patterson
Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.
Standard Lock Co., 113 Himrod St. Brooklyn, N. Y. "Champion"
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

OPENERS, Motor Operated Door
Motor Driven Mechanisms to operate Swing or Slide Doors; for Door Latch Releases—see Openers, Electromagnetic Door

Alert Electric Co., 1011 S. Los Angeles St., Los Angeles, Cal.
Allith-Prouty Co., Danville, Ill.
Electric Door Corp., Ithaca, N. Y.
Power Door Corp., 7 S. Dearborn St Chicago, Ill.
Richards-Wilcox Mfg. Co., Third St, Aurora, Ill.
Y-M—see Yoder-Morris Co.
Yoder-Morris Co., 5500 Walworth Ave, Cleveland, Ohio "Y-M"

OPTICAL PYROMETERS—
see **Pyrometers,** Electric

ORGAN BLOWERS—
see **Blowers,** Electric Organ

ORGAN CHAMBER HEATERS—
see **Heaters,** Organ Chamber

ORNAMENTAL GLOBES—
see **Globes, Ornamental**

OSCILLATING FANS—
see **Fans,** Desk and Bracket

OUTDOOR METER BOXES—
see **Boxes,** Meter Service

OUTFITS, Glass Etching—
see **Compounds, Racks and Stamps,** Glass Etching

OUTLET BOX BRACKETS—
see **Hangers,** Outlet Box

OUTLET BOXES—
see **Boxes,** Outlet and Switch
also **Boxes,** Watertight Outlet and Switch
also **Hangers,** Outlet Box

OUTLETS, Convenience—
see **Plugs and Receptacles,** Polarized
also **Receptacles,** Flush

OUTLETS, Fixture—
see **Receptacles,** Fixture Supporting

OVENS, Commercial Industrial
Electric Ovens for Annealing, Enameling, Conditioning, etc.

Blodgett Co., G. S., 53 Maple St., Burlington, Vt.
Crawford Oven Co., 308 W. Water St., New Haven, Conn.
Despatch Oven Co., 628 N. E. Ninth St., Minneapolis, Minn.
Detroit Sheet Metal Works, 1300 Oakman Blvd., Detroit Mich. "DSM"
DSM—see Detroit Sheet Metal Works
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Electrik-Maid Bake Shops, 321 Cedar St., St. Paul, Minn.
Freas Thermo-Electric Co., 1206 S. Grove St., Irvington, N. J.
Gehnrich Indirect Heat Oven Co., Skillman Ave., Honeywell & Buckley Sts., Long Island City, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hayes, C. I., 129 Baker St., Providence, R. I.
Hotpoint—see Edison General Electric Appliance Co.
Machler Co., Paul, 2210 W. Lake St., Chicago, Ill.
Sargent & Co., E. H., 165 E. Superior St., Chicago, Ill.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Steiner & Co., E. E., 197 E. Kinney St., Newark, N. J.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Young Brothers Co., 6500 Mack Ave., Detroit, Mich.

OVENS, Electric Household
Electric Baking or Roasting Ovens for use in Residences

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Ameco—see American Metal Specialty Co.
American Metal Specialty Co., 3 Appleton St., Boston, Mass. "Ameco"
New Era Electric Range Co., 50 E. 42d St., New York, N. Y.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

OVERLOAD BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

OVERLOAD RELAYS—
see **Relays,** Current Control

OVERVOLTAGE BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

OVERVOLTAGE RELAYS—
see **Relays,** Current Control

OXIDIZING STONES—
see **Stones,** Commutator Grinding

OZONATORS, Industrial—
see **Generators,** Industrial Ozone

OZONATORS, Therapeutic—
see **Generators,** Therapeutic Ozone

OZONE GENERATORS—
see **Generators,** Industrial Ozone
also **Generators,** Therapeutic Ozone

PACKING BOXES—
see **Boxes,** Corrugated Fibre

PACKING HOUSE CORD—
see **Cord,** Heavy Duty

PACKS, Hot—
see Pads, Electric Heating

PADS, Electric Heating
Flexible and Rigid Types of Electrically Heated Pads for Warming

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill. "Sunbeam"

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Electric Controller Co., Greenfield, Ind. "Lectro-warm"

Empire—see Metal Ware Corp.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Graham Corp., 4421 W. Carroll Ave., Chicago, Ill.

Great Northern Mfg. Co., 536 Lake Shore Dr., Chicago, Ill.

Handy—see Chicago Electric Mfg. Co.

Hewitt Electrical & Mfg. Co., 44 Brookline St., Cambridge, Mass.

Hotpoint—see Edison General Electric Appliance Co.

Jackson Electrical Co., 900 W. Van Buren St., Chicago, Ill.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-A-Hot"

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Thermax" "Universal"

Lectro-warm—see Electric Controller Co.

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Manning, Bowman & Co., Meriden, Conn. "Meteor"

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"

Meteor—see Manning, Bowman & Co.

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.

Nulife Health Blanket Mfg. Co., 1101 E. First St., Santa Ana, Cal.

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Queen Quality—see Watlow Electric Mfg. Co.

Rimco—see Rock Island Mfg. Co.

Rite-Hete Appliances, Inc., 1200 14th Ave., S. E., Minneapolis, Minn.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Samson-United Corp., 8 Jones St., Rochester, N. Y.

Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.

Star-Rite—see Fitzgerald Mfg. Co.

Sun-Ray Mfg. Co., 720 S. Main St., Oshkosh, Wis.

Sunbeam—see Chicago Flexible Shaft Co.

Thermax—see Landers, Frary & Clark

Thermo-A-Hot—see Knapp-Monarch Co.

Universal—see Landers, Frary & Clark

Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo.

Varick Electric Mfg. Co., 38 E. 21st St., New York, N. Y.

Victor X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo. "Queen Quality"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 103

White Beauty Electric Co., 4424 N. Western Ave.. Chicago, Ill.

White Cross—see National Stamping & Electric Works

PAGING SYSTEMS—
see **Boards,** Code Signaling

PAINT, Acid Resisting
For Insulating Paint—see Paint, Insulating

American Asphalt Paint Co., 844 Rush St., Chicago, Ill. "Sarva"

American Di-Electrics, Ltd., 89 Hancock St., Long Island City, N. Y.

Barber Asphalt Co., 1600 Arch St., Philadelphia, Pa. "Genasco"

Benolite Varnish Co., Koppers Bldg., Pittsburgh, Pa.

Dampney Co. of America, (Hyde Park) Boston, Mass.

Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.

Elaterite Paint & Mfg. Co., 11th & Market Sts., Des Moines, Iowa

Genasco—see Barber Asphalt Co.

General Electric Co., Bridgeport, Conn.

Goheen Corp. of New Jersey, 202 Emmett St., Newark, N. J.

Hexsulate—see Tar Products Corp.

Impervious Varnish Co., 436 Seventh Ave., Pittsburgh, Pa.

Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.

Nitrose Co., Peoria Life Bldg., Peoria, Ill.

R. I. W.—see Standard Varnish Works

Riesenman Mfg. Co., 1018 Liberty St., Franklin, Pa.

Sarva—see American Asphalt Paint Co.

Standard Varnish Works, 443 Fourth Ave., New York, N. Y. "R. I. W."

Sterling Varnish Co., Haysville, Pa.

Stone & Tar Products Co., 97 S. Sixth St., Brooklyn, N. Y.

Tar Products Corp., 99 Empire St., Providence, R. I. "Hexsulate"

Truscon Laboratories, Caniff St. & Grand Trunk R.R., Detroit, Mich.

Voltax Co., 99 Reservoir Ave., Bridgeport, Conn.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PAINT BURNING TORCHES—
see Torches, Electric Paint Burning

PAINT GUNS—
see **Sprayers,** Hand Paint

PAINT, Insulating
For Insulating and Impregnating Compounds—see Compounds, Insulating

American Asphalt Paint Co., 844 Rush St., Chicago, Ill. "Trixas"

Bakelite Corp., 247 Park Ave., New York, N. Y.

Benolite Varnish Co., Koppers Bldg., Pittsburgh, Pa.

Calman & Co., Emil, 42-25 Vernon Blvd., Long Island City, N. Y.

General Electric Co., Bridgeport, Conn.

Impervious Varnish Co., 436 Seventh Ave., Pittsburgh, Pa.

Insulatine Co., 1 Broadway, New York, N. Y.

Lanken-Vivian Co., 2091 E. 19th St., Cleveland, Ohio

M. I. C.—see Mica Insulator Co.

Mica Insulator Co., 200 Varick St., New York, N. Y. "M. I. C." "Mico"

Mico—see Mica Insulator Co.

Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.

National Cable Compound Co., Mitchell, Ind.

P & B—see Ruberoid Co.

Riesenman Mfg. Co., 1018 Liberty St., Franklin, Pa.

Robertson Chemical Co., 9808 Meech Ave., Cleveland, Ohio

Ruberoid Co., 95 Madison Ave., New York, N. Y. "P & B"

Standard Varnish Works, 443 Fourth Ave., New York, N. Y.

Trixas—see American Asphalt Paint Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PAINT MIXERS—
see **Mixers,** Portable Commercial

PAINT, Storage Battery—
see Paint, Acid Resisting

PANEL HOLE CUTTERS—
see Cutters, Steel Panel and Box

PANEL SWITCHES—
see **Switches,** Baby Knife
also **Switches,** Panel

PANELBOARDS
Feeder, Service and Distribution Panelboards complete with Switches, etc.; for Steel Cabinets—see Boxes, Cutout and Switch

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo. "FA"
Cataloged on page 74

All-Steel-Equip Co., Aurora, Ill. "Fuse-Cabs"

American Electric Switch Co., Minerva, Ohio

Aurora Steel Products Co., Aurora, Ill.

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.

Benjamin Electric Mfg. Co., Des Plaines, Ill. "Starrett"
Cataloged on page 111

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich. "Fusenters" "Unit-Versal"

C. & P. Electric Works, Shaws Lane, Springfield, Mass.

Circle T—see Trumbull Electric Mfg. Co.

Cole Metal Products Co., 33 Crescent St., Long Island City, N. Y.

Commonwealth Electric Co., 417 Broadway, St. Paul, Minn.

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Drendell Electrical & Mfg. Co., 1760 Howard St., San Francisco, Cal.

Electric Apparatus Co., 702 N. Halsted St., Chicago, Ill.

Electric Box & Switchboard Co., 500 S. Throop St., Chicago, Ill.

Electric Panelboard Co., 426 Exchange St., Rochester, N. Y.

Empire Switchboard Co., Fourth Ave. and 28th St., Brooklyn, N. Y.

FA—see Adam Electric Co.

Federal Steel Products Co., 2 Ave. L, Newark, N. J.

Fouch Electric Mfg. Co., 105 N. Ninth St., Portland, Ore.

Fuse-Cabs—see All-Steel-Equip Co.

Fusenters—see Bull Dog Electric Products Co.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Laganke Electric Co., 2400 Woodland Ave., Cleveland, Ohio

Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio

Lexington Electric Products Co., 207 E. 43d St., New York, N. Y.

Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Meyers Safety Switch Co., 419 Tehama St., San Francisco, Cal.

Milwaukee Electric Switchboard Co., 156 Clinton St., Milwaukee, Wis.

Penn Electrical Co., Irwin, Pa.

Plainville Electrical Products Co., Plainville, Conn.

Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio

Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.

R-C—see Robertson Electric Construction Co.

Robertson Electric Construction Co., 126 S. Elmwood Ave., Buffalo, N. Y. "R-C"

Royal Switchboard Co., 542 W. 22d St., New York, N. Y.

Schmidt Electric Co., A. R., 262 E. Water St., Milwaukee, Wis.

Square D Co., 6060 Rivard St., Detroit, Mich.

Starrett—see Benjamin Electric Mfg. Co.

Superior Switchboard & Devices Co., 424 Schroyer Ave., S. W., Canton, Ohio

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Trumbull-Vanderpoel Electric Mfg. Co., Bantam, Conn.

Union Electric Mfg. Co., 926 Juneau Ave., Milwaukee, Wis.

Unit-Versal—see Bull Dog Electric Products Co.

Wadsworth Electric Mfg. Co., 20 W. 11th St., Covington, Ky.
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Walker Switchboard Co., 1020 W. Susquehanna Ave., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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Wisconsin Electrical Mfg. Co., 1031 Clybourn St., Milwaukee, Wis.

Wurdack Electric Mfg. Co., Wm., 4444 Clayton Ave., St. Louis, Mo.

PANELBOARDS, Complete Distribution—

see **Panelboards**

PANELING—

see **Rubber,** Hard

PANELS, Composition—

see **Insulation,** Synthetic

PANELS, Fuse—

see **Panelboards**

PANELS, Laminated—

see **Insulation,** Synthetic

PANELS, Motor-Generator Control—

see **Boards,** Plating Generator Control

PANELS, Rubber—

see **Rubber,** Hard

PANELS, Switch—

see **Panelboards**

PAPER, Condenser—

see **Tissue,** Condenser

PAPER CONDENSERS—

see **Condensers,** Paper

PAPER COVERED MAGNET WIRE—

see **Wire,** Paper Covered Magnet

PAPER, Fish and Rope

Thin Dielectric Paper, Fibre, etc., for use in Wrapping or Insulating Coil Windings

Armatite—see Mica Insulator Co.

Case Bros., Highland Park, Conn.

Chicago Mica Co., 525 Campbell St., Valparaiso, Ind.

Continental-Diamond Fibre Co., Newark, Del.
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Fyberoid—see Wilmington Fibre Specialty Co.

General Electric Co., Bridgeport, Conn.

Hartford City Paper Co., Hartford City, Ind.

Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J.

Macallen Co., 25 Macallen St., Boston, Mass.
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Manning Paper Co., John A., Troy, N. Y.

Mica Insulator Co., 200 Varick St., New York, N. Y. "Armatite"

National Vulcanized Fibre Co., Wilmington, Del. "Peerless"
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Peerless—see National Vulcanized Fibre Co.

Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.

Stevens Paper Mills, Windsor, Conn.

Warren Mfg. Co., 342 Madison Ave., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wilmington Fibre Specialty Co., Wilmington, Del. "Fyberoid"

PAPER, Fullerboard and Pressboard

Thick Dielectric Paper for use on Barriers, etc.

Case Bros., Highland Park, Conn.

Chicago Mica Co., 525 Campbell St., Valparaiso, Ind.

General Electric Co., Bridgeport, Conn.

Macallen Co., 25 Macallen St., Boston, Mass.
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Mica Insulator Co., 200 Varick St., New York, N. Y.

Rogers Paper Mfg. Co., 219 Hartford Rd., South Manchester, Conn.

Sterling Fibre Board Co., 501 Fifth Ave., New York, N. Y.

Stevens Paper Mills, Windsor, Conn.

Warren Mfg. Co., 342 Madison Ave., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PAPER, Oiled—

see **Fabrics,** Varnished or Oiled

PAPER PULLEYS—

see **Pulleys, Paper**

PAPER, Rope—

see **Paper, Fish and Rope**

PAPER SHADES—

see **Shades,** Parchment

PAPER TAPE—

see **Tape, Varnished or Oiled**

PAPER, Varnished—

see **Fabrics,** Varnished or Oiled

PARAFFINE

For use Alone or as a Base for Filling, Sealing or Impregnating Compounds

Flexo Products Co., 1121 W. Washington Blvd., Chicago, Ill.

Smith & Nichols, 121 Maiden Lane, New York, N. Y.

Standard Wax & Import Co., 110 E. 42d St., New York, N. Y.

PARALLEL CORD—

see **Cord, Twisted or Parallel**

PARCHMENT SHADES—

see **Shades,** Parchment

PARK CABLE—

see **Cable, Armored Park**

PARKERIZING—

see **Galvanizing and Sherardizing**

PASTE, Soldering—

see **Flux,** Soldering

PEELERS, Electric Vegetable

Motor Operated Appliances for Peeling Vegetables

Hobart Bros. Co., 113 Water St., Troy, Ohio

Reco—see Reynolds Electric Co.

Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"

PEGS, Armature—

see **Wedges, Armature**

PENCILS, Zinc—

see **Zincs,** Battery

PENDANTS, Fixture—

see **Canopies,** Fixture

PENDANTS, Luminous

Luminous Pendants, Buttons and Screws

Acornlite Studios, 675 72d St., Brooklyn, N. Y.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Glo-Tip" "H & H"

PENDANTS, Luminous (Contd.)

Beaver Mfg. Co., 625 N. Third St., Newark, N. J. "Firefly"
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y. "Eaglelite"
Eaglelite—see Eagle Electric Mfg. Co.
Firefly—see Beaver Mfg. Co.
General Electric Co., Bridgeport, Conn. "Radieye"
Glo-Tip—see Arrow-Hart & Hegeman Electric Co.
Glowlite—see Rodale Mfg. Co.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Luminite Corp., 24 Scott St., Newark, N. J.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
Radieye—see General Electric Co.
Reynolds Spring Co., Jackson, Mich. "Reynolite"
Reynolite—see Reynolds Spring Co.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y. "Glowlite"
Smith & Co., T. C., 3915 Powelton Ave., Philadelphia, Pa.
Undark—see United States Radium Corp.
United States Radium Corp., 535 Pearl St., New York, N. Y. "Undark"

PENDENT CORD—

see **Cord,** Heavy Duty

PENDENT PUSH BUTTONS—

see **Buttons,** Pendent Push

PENDENT SWITCHES—

see Switches, Cord

PENNIES, Conduit—

see **Seals,** Conduit

PENS, Pyrograph

Electrically Heated Pens for Scorching Wood, Leather, etc.; for Instruments for Etching on Metal—see Markers, Electric Tool

Post Electric Co., 7 E. 44th St., New York, N. Y. "Stylolectric"
Stylolectric—see Post Electric Co.

PENT HOUSES, Ventilating—

see **Ventilators,** Roof

PERCOLATORS, Coffee

Electrically Heated Pots or Urns, with Spouts or Spigots, for Percolating Coffee

Aluminum Cooking Utensil Co., New Kensington, Pa. "Wear-Ever"
Armstrong Electric & Mfg. Corp., 1018 Seventh St., Huntington, W. Va.
Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"
Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.
Betsy Ross—see Central Flatiron Mfg. Co.
Buffalo Mfg. Co., 191 Clinton St., Buffalo, N. Y.
Case Electric Corp., 11th & Adams Sts., Marion, Ind. "Ev'ryday"
Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"
Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"
Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.
Dover Mfg. Co., Dover, Ohio
Dowd-Rodgers Co., 95 Madison Ave., New York, N. Y.
Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"
Edicraft Siphonator—see Edison, Inc.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Edison, Inc., Thomas A., Orange, N. J. "Edicraft Siphonator"
Empco—see Metal Ware Corp.
Empire—see Metal Ware Corp.
Ev'ryday—see Case Electric Corp.
Excelo—see Economy Aluminum Co.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"
Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.
Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.
Handy—see Chicago Electric Mfg. Co.
Hold-Heet—see Russell Electric Co.
Hotpoint—see Edison General Electric Appliance Co.
Kasgil Mfg. Co., 3947 Armitage Ave., Chicago, Ill. "Koffeeking"
Koffeeking—see Kasgil Mfg. Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Thermax" "Universal"
Manning, Bowman & Co., Meriden, Conn. "Meteor"
Marion—see Rutenber Electric Co.
Massillon Aluminum Co., 607 First St., S. W., Massillon, Ohio
Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empco" "Empire"
Meteor—see Manning, Bowman & Co.
National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"
Rimco—see Rock Island Mfg. Co.
Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"
Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"
Rome Mfg. Co., Railroad St., Rome, N.Y.
Royal Rochester—see Robeson Rochester Corp.
Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"
Rutenber Electric Co., Marion, Ind. "Marion"
Silex Co., 1 Laurel St., Hartford, Conn.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Star-Rite—see Fitzgerald Mfg. Co.
Super Lectric—see Superior Electric Products Corp.
Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"
Thermax—see Landers, Frary & Clark
Torrid—see Beardsley & Wolcott Mfg. Co.
Universal—see Landers, Frary & Clark
Waage, A. H., 112 Chambers St., New York, N. Y.
Wear-Ever—see Aluminum Cooking Utensil Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **103**
White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.
White Cross—see National Stamping & Electric Works

PERMANENT MAGNETS—

see **Magnets,** Permanent

PERMEAMETERS

For Testing the Magnetic Properties of Metals

Fahy, Frank P., 441 Lexington Ave., New York, N. Y.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.

PHANTOM LOADS—

see **Loads,** Phantom

PHASE BALANCE RELAYS—

see **Relays,** Current Control

PHASE ROTATION RELAYS—

see **Relays,** Current Control

PHASE SEQUENCE INDICATORS—

see **Instruments,** Meter Testing

PHASE SHIFTERS, Potential—

see **Instruments,** Meter Testing

PHASING TRANSFORMERS—

see **Transformers,** Instrument

PHENOL COMPOUNDS—

see **Compounds,** Molding

PHENOLIC INSULATION—

see **Insulation,** Synthetic

PHONES, Ear—

see **Amplifiers,** Sound

PHONOGRAPH WINDING MOTORS—

see **Motors,** Electric Phonograph

PHOSPHOR BRONZE, Sheet and Rod—

see **Brass and Copper,** Sheet and Rod

PHOSPHOR BRONZE TUBING—

see **Tubing,** Brass or Copper

PHOTO-ELECTRIC CELLS—

see Cells, Photo-Electric

PHOTOGRAPHIC RETOUCHERS—

see Retouchers, Electric Photographic

PHOTOMETERS

Instruments to Measure the Intensity of a Source of Light

Burt Scientific Laboratory, R. C., 904 E. California St., Pasadena, Cal.
Foote, Pierson & Co., 75 Hudson St., Newark, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Queen—see Gray Instrument Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PIANO SCREWS—

see **Screws,** Iron Thumb and Wing

PIANOS, Electric Coin Operated—

Motor Driven Player Pianos equipped with Coin Operated Time Switches

Automatic Musical Instrument Co., 1500 Union Ave., S.E., Grand Rapids, Mich.
Engelhardt Piano Co., S. Division St., St. Johnsville, N. Y.
Link Co., 185 Water St., Binghamton, N. Y.
National Electric Piano Co., 26 William St., St. Johnsville, N. Y.

PICTURE LIGHTING LAMPS—
see **Lamps**, Picture

PILOT LIGHTS—
see **Receptacles**, Indicating

PIN INSULATORS—
see **Insulators**, Glass

PIN PLUGS and RECEPTACLES—
see **Plugs and Receptacles**, Pin

PIN VISES—
see **Vises**, Hand and Pin

PINIONS, Fibre—
see **Gears and Pinions**, Fibre and Fabric

PINS, Clamp—
see **Pins**, Metal Insulator

PINS, Cob Type—
see **Pins**, Composite Wood and Metal Insulator

PINS, Composite Wood and Metal Insulator
For Wood Insulator Pins—see Pins, Wood Insulator; for Metal Insulator Pins—see Pins, Metal Insulator

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.
Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
O-B—see Ohio Brass Co.
Ohio Brass Co., Mansfield, Ohio "O-B"
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio

PINS, Hollow Insert—
see **Stampings**, Metal

PINS, Insulator—
see **Pins**, Composite Wood and Metal Insulator
also **Pins**, Metal Insulator
also **Pins**, Wood Insulator

PINS, Metal Insulator
For Wood Insulator Pins—see Pins, Wood Insulator; for Cob Type Pins—see Pins, Composite Wood and Metal Insulator

Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.
Eastern Malleable Iron Co., Naugatuck, Conn.
Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"
Electric Railway Equipment Co., 2918 Cormany Ave., Cincinnati, Ohio "Elreco"
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.
Elpeco—see Electric Power Equipment Corp.
Elreco—see Electric Railway Equipment Co.
Erie—see Keystone-State Products Corp.
Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"
Keystone-State Products Corp., Blairsville, Pa. "Erie"
Line Material Co., South Milwaukee, Wis.
Ohio Brass Co., Mansfield, Ohio "O-B"
O-B—see Ohio Brass Co.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Peirce—see Hubbard & Co.
St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo. "Way"
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio
Way—see St. Louis Malleable Casting Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PINS, Wood Insulator
Turned Wooden Pins for Supporting Insulators; for Metal Insulator Pins—see Pins, Metal Insulator

A & L—see Ayer & Lord Tie Co.
American Crossarm & Conduit Co., 332 S. Michigan Ave., Chicago, Ill.
American Forest Products Co., 122 E. 42d St., New York, N. Y.
Ayer & Lord Tie Co., 80 E. Jackson Blvd., Chicago, Ill. "A & L"
Carolina Cross Arm Co., Elkin, N. C.
Chattanooga Pole Co., Tennessee Electric Power Bldg., Chattanooga, Tenn.
Cottage Planing Mill Co., Everett, Pa.
Gravely, B. F. & R. P., Martinsville, Va.
Locust Pin Co., Front Royal, Va.
National Pin & Bracket Co., North Vernon, Ind.
Newport Pin Mill, Newport, Pa.
Petertyl, Victor, 130 State St., Traverse City, Mich.
Port Royal Pin Mill, Port Royal, Pa.
Southern Pine Mfg. Co., Paducah, Ky.
Valley Mfg. Co., Woodburn, Ore.

PINS, Wood Top—
see **Pins**, Composite Wood and Meta Insulator

PIPE BENDERS—
see **Benders**, Hand Conduit

PIPE CLAMPS—
see **Clamps**, Ground
also **Straps**, Conduit Pipe

PIPE CUTTERS—
see **Cutters**, Hand Conduit

PIPE DIES—
see **Stocks and Dies**, Conduit Threading

PIPE HANGERS—
see **Hangers**, Conduit Pipe

PIPE HEATERS—
see **Heaters**, Pipe

PIPE REAMERS—
see **Reamers**, Conduit

PIPE STOCKS—
see **Stocks and Dies**, Conduit Threading

PIPE STRAPS—
see **Straps**, Conduit Pipe

PIPE STRUCTURE FITTINGS—
see **Fittings**, Pipe Structure

PIPE VISES—
see **Vises**, Pipe

PIPE WRENCHES—
see **Wrenches**, Pipe

PIPES, Ground—
see **Rods**, Ground

PLANTS, Electrically Operated Water Supply
Complete Motor Driven Pumping Plants; for Farm Lighting Plants—see Plants, Farm Light and Power

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Auto-Prime Pump Co., 850 E. 72d St., Cleveland, Ohio
Buckeye—see Mast, Foos & Co.
Buckeye Pump & Mfg. Co., 417 S. 18th St., Columbus, Ohio
Chicago Pump Co., 3161 Elston Ave., Chicago, Ill.
Dayton Pump & Mfg. Co., Webster St., Dayton, Ohio
Delco-Light Co., 334 N. Taylor St., Dayton, Ohio
Duro Co., 537 E. Monument Ave., Dayton, Ohio "Veritank"
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.
Flint & Walling Mfg. Co., 86 Oak St., Kendallville, Ind. "Hoosier"
Fort Wayne Engineering & Mfg. Co., 1728 N. Harrison St., Fort Wayne, Ind.
Gould's Pumps, Inc., 240 Falls St., Seneca Falls, N. Y.
Homelite Corp., 77 Riverdale Ave., Port Chester, N. Y.
Hoosier—see Flint & Walling Mfg. Co.
Humphryes Mfg. Co., Mansfield, Ohio
Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Kewanee Private Utilities Co., Kewanee, Ill.
McDonald Mfg. Co., A. Y., Dubuque, Iowa
Mast, Foos & Co., Main & Isabella Sts., Springfield, Ohio "Buckeye"
Milwaukee Air Power Pump Co., 12 Keefe Ave., Milwaukee, Wis.
Monarch Engineering Co., 240 E. First St., Dayton, Ohio
Myers & Bro. Co., F. E., 501 Orange St., Ashland, Ohio
National Utilities Corp., Belleview Pl. & River, Milwaukee, Wis.
Roberts Co., Geo. J., 251 E. Second St., Dayton, Ohio
Rumsey Pump Co., 109 Johnson St., Seneca Falls, N. Y.
Trupar Mfg. Co., 140 Davis Ave., Dayton, Ohio
Veritank—see Duro Co.

PLANTS, Farm Light and Power
Complete Self Contained Generating Plants with Switchboards

Aerodyne Co., 517 11th Ave., S. E., Minneapolis, Minn.
Aerolectric—see Perkins Corp.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Bucklen Corp., Herbert E., 1010 N. Main St., Elkhart, Ind. "Hebco"
Carpenter Automatic Electric Systems Co., 299 Madison Ave., New York, N. Y.
Comet Electric Co., Union Trust Bldg., Indianapolis, Ind.
Cook Motor Co., Delaware, Ohio
Couch Mfg. Co., Grant, Fla. "Hydrolite"
De Luxe—see Kintzing Loom Mfg. Co.
Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill.
Flolight — see Hutchison Engineering Works
Fuller & Johnson Mfg. Co., 1350 E. Washington Ave., Madison, Wis.
Genco Light — see Hanover Engineering Co.
Hanover Engineering Co., E. Middle St., Hanover, Pa. "Genco Light"

PLANTS, Farm Light and Power (Continued)

Hebco—see Bucklen Corp.

Homelite Corp., 77 Riverdale Ave., Port Chester, N. Y.

Hoppes Water Wheel Co., 150 Greenmount Ave., Springfield, Ohio

Hutchison Engineering Works, 549 Washington Blvd., Chicago, Ill. "Flolight"

Hydrolite—see Couch Mfg. Co.

Kewanee Private Utilities Co., Kewanee, Ill.

Kintzing Loom Mfg. Co., E. Middle St., Hanover, Pa. "De Luxe"

Kohler Co., Kohler, Wis.

Lincoln-Schlueter Machinery Co., 219 W. Grand Ave., Chicago, Ill. "New Way"

Matthews Engineering Co., Sandusky, Ohio

Modern Equipment Co., McIllwriath St., Muskegon, Mich.

New Way—see Lincoln-Schlueter Machinery Co.

Perkins Corp., 1507 S. Olive St., South Bend, Ind. "Aerolectric"

Regal Gasoline Engine Co., Coldwater, Mich.

Stearns Motor Mfg. Co., Ludington, Mich.

Sunbeam Electric Mfg. Co., Morgan Ave., Evansville, Ind.

United States Motors Corp., Oshkosh, Wis.

Universal Motor Co., 52 Ceape St., Oshkosh, Wis.

Universal Products Co., 420 Nebraska St., Oshkosh, Wis. "Upco"

Upco—see Universal Products Co.

Western Electric Co., 195 Broadway, New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PLANTS, Water Supply—

see **Plants,** Electrically Operated Water Supply

PLASTER CUTTERS—

see **Cutters,** Plaster

PLASTIC MOLDING MACHINES—

see **Machines,** Plastic Molding

PLASTIC VARNISH—

see **Varnish,** Insulating

PLATE MICA—

see **Mica**

PLATE WARMERS—

see **Warmers,** Electric Plate

PLATES, Blank—

see **Plates,** Flush Switch and Outlet

PLATES, Color—

see **Discs,** Color

PLATES, Combination Flush Receptacle—

see **Plates,** Flush Switch and Outlet

PLATES, Electric Hot

Small Electric Stoves having One or More Heating Discs or Coils; for Table Stoves equipped with Special Pans, etc. —see Stoves, Electric Table

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Advance Household Appliances, Inc., Wapakoneta, Ohio

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Case Electric Corp., 11th & Adams Sts., Marion, Ind. "Ev'ryday"

Champion Electric Co., 1051 Power Ave., Cleveland, Ohio.

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Coolee Mfg. Co., Sandusky, Ohio "O'Kay"

Crawford—see Walker & Pratt Mfg. Co.

Delta Electric Co., Marion, Ind. "Little Chef"

Delta Products Mfg. Co., Bryan, Ohio

Detroit Electric Stove Co., 3435 Piquette Ave., Detroit, Mich.

Dominion Electrical Mfg. Co., 722 Ontario Ave., W. Minneapolis, Minn.

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Electro-Master, Inc., 1803 E. Atwater St., Detroit, Mich.

Empire—see Metal Ware Corp.

Estate Stove Co., Hamilton, Ohio

Everhot—see Swartzbaugh Mfg. Co.

Ev'ryday—see Case Electric Corp.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Foldex Mfg. Corp., 1435 Franklin St., Detroit, Mich.

Genesee Electric Co., Mount Morris, N. Y.

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y.

Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.

Griswold Mfg. Co., 1001 W. 12th St., Erie, Pa.

Handy—see Chicago Electric Mfg. Co.

Hot Glow Electric Mfg. Co., 1511 Niagara St., Buffalo, N. Y.

Hot Quick—see Mabey Electric & Mfg. Co.

Hotpoint—see Edison Electric Appliance Co.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Monarch"

Kruesheld Electric & Mfg. Co., 1133 Broadway, New York, N. Y.

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Thermax" "Universal"

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Little Chef—see Delta Electric Co.

Mabey Electric & Mfg. Co., 968 Fort Wayne Ave., Indianapolis, Ind. "Hot Quick"

Malleable Iron Range Co., 310 Lake St., Beaver Dam, Wis. "Monarch"

Manning, Bowman & Co., Meriden, Conn.

Marion—see Rutenber Electric Co.

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

Monarch—see Knapp-Monarch Co.

Monarch—see Malleable Iron Range Co.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

O'Kay—see Coolee Mfg. Co.

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Proctor & Schwartz Electric Co., Seventh St. & Tabor Rd., Philadelphia, Pa.

Rimco—see Rock Island Mfg. Co.

Rite-Hete Appliances, Inc., 1200 14th Ave., S. E., Minneapolis, Minn.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Rutenber Electric Co., Marion, Ind. "Marion"

Southern Wesix Co., 617 N. Tenth St., Birmingham, Ala.

Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

Star-Rite—see Fitzgerald Mfg. Co.

Stern-Brown, 257 W. 17th St., New York, N. Y.

Super Lectric—see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"

Thermax—see Landers, Frary & Clark

Torrid—see Beardsley & Wolcott Mfg. Co.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Universal—see Landers, Frary & Clark

Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo.

Waage, A. H., 112 Chambers St., New York, N. Y.

Walker & Pratt Mfg. Co., 31 Union St., Boston, Mass. "Crawford"

Wapak Hollow Ware Co., Wapakoneta, Ohio

Wesix, Inc., Rialto Bldg, San Francisco, Cal.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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White Cross—see National Stamping & Electric Works

PLATES, Flush Switch and Outlet

Metal, Composition or Glass Plates for Covering Switch and Outlet Boxes

A & W—see Armstrong & White

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrolite—see Arrow-Hart & Hegeman, Electric Co.

Arrow-Hart & Hegeman Electric Co. Hartford, Conn. "Arrolite" "H & H"

Auburn Button Works, 48 Canoga St., Auburn, N. Y.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Buchsbaum & Co., S., 159 N. State St., Chicago, Ill.

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page **60**

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Crystal Switch Plate Corp., 92 Hinsdale St., Brooklyn, N. Y.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Danbury Electric Mfg. Co., Danbury, Conn.

Diamond H—see Hart Mfg. Co.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Electrical Appliance Mfg. Co., 568 Watertown Ave., Waterbury, Conn.

Electro-Glas—see Liberty Works

Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.
Cataloged on pages **63-64**

Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.

H & H—see Arrow-Hart & Hegeman Electric Co.

Haring Switch Plate Co., Seventh & Chestnut Sts., Philadelphia, Pa.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Cataloged on page 70
Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.
Liberty Works, Egg Harbor City, N. J. "Electro-Glas"
Made-O-Glass Co., 1321 Arch St., Philadelphia, Pa.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Paulding, Inc., John I., (Acushnet) New Bedford, Mass.
Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.
RPCO—see Robinson Products
Reynolds Spring Co., Jackson, Mich. "Reynolite"
Reynolite—see Reynolds Spring Co.
Robinson Products, Inc., Orianna & Cumberland Sts., Philadelphia, Pa. "RPCO"
Skinner & Son, W., Hammonton, N. J.
Square D Co., 6060 Rivard St., Detroit, Mich.
Standard Electric Mfg. Co., 925 Wrightwood Ave., Chicago, Ill.
Stern-Brown, 257 W. 17th St., New York, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Veco Mfg. Co., 136 Washington St., South Norwalk, Conn.
Wood Electric Co., C. D., 565 Broadway, New York, N. Y.
Yaxley Mfg. Co., 1528 W. Adams St., Chicago, Ill.

PLATES, Flush Telephone—
see **Plates,** Flush Switch and Outlet

PLATES, Glass—
see **Plates,** Flush Switch and Outlet

PLATES, Name
Manufacturers equipped to produce Name Plates to order—see also Transfers, Decalcomania

American Emblem Co., Utica, N. Y.
Angell Metal Embossing Co., Barney & Smith Bldg., Dayton, Ohio
Auld Co., D. L., Fifth Ave. & Fifth St., Columbus, Ohio
Bastian Bros., 1600 N. Clinton St., Rochester, N. Y.
Chandler Co., Springfield, Mass.
Crowe Name Plate & Mfg. Co., 1749 Grace St., Chicago, Ill.
Detroit Name Plate Etching Co., 684 E. Congress St., Detroit, Mich.
Electro-Chemical Engraving Co., 52 Vanderbilt Ave., New York, N. Y.
Engravograph Corp., 12 Vestry St., New York, N. Y.
Etched Products Corp., Queens Blvd. & Harold Ave., Long Island City, N. Y.
Fogarty Mfg. Co., 800 Monument Ave., Dayton, Ohio.
General Etching & Mfg. Co., 3082 W. Grand Ave., Chicago, Ill.
Grammes & Sons, L. F., Allentown, Pa.
Litchfield Corp., 25 Dey St., New York, N. Y.
Litho-Etching Corp., 52 Vanderbilt Ave., New York, N. Y.
Matthews & Co., Jas. H., 3942 Forbes St., Pittsburgh, Pa.
Mayer Co., Geo. J., 36 S. Meridian St., Indianapolis, Ind.
Metal Arts Co., 742 Portland Ave., Rochester, N. Y.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Moss & Co., Henry, 113 53d St., Brooklyn, N. Y.
Murdock Stamp & Specialty Co., 123 W. Pearl St., Cincinnati, Ohio
O'Hara Waltham Co., Waltham, Mass.
Patrick & Moise-Klinkner Co., 369 Market St., San Francisco, Cal.
Schwerdtle Stamp Co., 41 Cannon St., Bridgeport, Conn.
Spencer Mfg. Co., S. M., cor. Washington St. & Cornhill Ave., Boston, Mass.
Stafford Co., N., 96 Fulton St., New York, N. Y.
Stanley Mfg. Co., 46 Cannon St., Dayton, Ohio
Vetter, W. A., 24 12th St., San Francisco, Cal.
Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.
Whittier Co., Horace R., Pequabuck, Conn.

PLATING GENERATOR CONTROL PANELS—
see **Boards,** Plating Generator Control

PLATING GENERATORS—
see **Generators,** Plating

PLATINUM
Rod, Wire, Points or Rivets

American Platinum Works, New Jersey R.R. Ave. at Oliver St., Newark, N. J.
Baker & Co., 54 Austin St., Newark, N. J.
Bishop & Co. Platinum Works, J., Malvern, Pa.
Cohn, Sigmund, 44 Gold St., New York, N. Y.
Handy & Harman, 57 William St., New York, N. Y.
Independent Contact Mfg. Co., 545 39th St., Union City, N. J.
Mallory & Co., P. R., 350 Madison Ave., New York, N. Y.
R. & H. Platinum Works, 709 Sixth Ave., New York, N. Y.
Wilco—see Wilson Co.
Wilson Co., H. A., 97 Chestnut St., Newark, N. J. "Wilco"

PLATINUM CONTACTS—
see **Platinum**

PLATINUM POINTS—
see **Platinum**

PLATINUM RIVETS—
see **Platinum**

PLATINUM WIRE—
see **Platinum**

PLIERS, Combination—
see **Pliers,** Combination Slip-Joint

PLIERS, Combination Slip-Joint
For Lineman's Pliers—see Pliers, Lineman's

Barcalo Mfg. Co., 225 Louisiana St., Buffalo, N. Y.
Bergman Tool Mfg. Co., 1575 Niagara St., Buffalo, N. Y.
Bernard—see Schollhorn Co.
Billings & Spencer Co., Laurel & Park Sts., Hartford, Conn.
Bridgeport Hardware Mfg. Corp., Iranistan Ave., Bridgeport, Conn.
Car-Van Steel Products Co., 1224 Fifth St., S. W., Canton, Ohio
Cee-Tee Co.—see Crescent Tool Co.
Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Cee-Tee-Co" "Red Devil"
Cronk & Carrier Mfg. Co., Montour Falls, N. Y.
Fairmount Tool & Forging Co., 10611 Quincy Ave., Cleveland, Ohio
Goodell-Pratt Co., Wells St., Greenfield, Mass.
Kilborn & Bishop Co., 196 Chapel St., New Haven, Conn.
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.
Kraeuter & Co., 585 18th Ave., Newark, N. J.
Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"
Pexto—see Peck, Stow & Wilcox Co.
Red Devil—see Crescent Tool Co.
Reed Mfg. Co., Erie, Pa.
Schollhorn Co., Wm., 414 Chapel St., New Haven, Conn. "Bernard"
Starrett Co., L. S., 165 Crescent St., Athol, Mass.
Utica Drop Forge & Tool Co., 2800 Whitesboro St., Utica, N. Y.

PLIERS, Lineman's
Insulated and Non-Insulated Lineman's Pliers; for Combination Pliers—see Pliers, Combination Slip Joint

Bernard—see Schollhorn Co.
Bridgeport Hardware Mfg. Corp., Iranistan Ave., Bridgeport, Conn.
Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"
Cronk & Carrier Mfg. Co., Montour Falls, N. Y.
Dreadnaught—see Kraeuter & Co.
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.
Kraeuter & Co., 585 18th Ave., Newark, N. J. "Dreadnaught"
Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"
Pexto—see Peck, Stow & Wilcox Co.
Red Devil—see Crescent Tool Co.
Schollhorn Co., Wm., 414 Chapel St., New York, N. Y. "Bernard"
Utica Drop Forge & Tool Co., 2800 Whitesboro St., Utica, N. Y.

PLIERS, Special Wire Stripping—
see **Tools,** Wire Stripping

PLUG ADAPTERS—
see **Adapters,** Plug

PLUG FUSES—
see **Fuses,** Non-Renewable Plug
also **Fuses,** Renewable Plug

PLUG GRIPS—
see **Grips,** Plug

PLUG RECEPTACLES—
see **Plugs and Receptacles,** Polarized
also **Receptacles,** Flush

PLUG SWITCHES—
see **Plugs and Receptacles,** Pin
also **Plugs and Receptacles,** Voltmeter

PLUGS, Appliance Connector
Plugs for use in Attaching Cords to Heating Appliances

Advance Household Appliances, Inc., Wapakoneta, Ohio
Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

PLUGS, Appliance Connector (Continued)

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn.

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hotpoint—see Edison General Electric Appliance Co.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill.

Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Safegard Electric Appliance Co., 1015 Chestnut St., Philadelphia, Pa.

Smith & Co., T. C. 3915 Powelton Ave., Philadelphia, Pa.

Snoco—see Snow & Co.

Snow & Co., E. W., 29 N. Water St., Rochester, N. Y. "Snoco"

United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"

Usalite—see United States Electric Mfg. Corp.

Utilo Mfg. Co., 320 E. Liberty St., Lancaster, Pa. "Big G"

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Wellmade Electric Mfg. Co., Torrington, Conn.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

PLUGS, Attachment—

see **Plugs,** Appliance Connector
also **Plugs,** Multiple Tap
also **Plugs,** Separable Attachment
also **Plugs,** Unit Attachment
also **Plugs and Receptacles,** Polarized

PLUGS, Battery Charging—

see **Plugs and Receptacles, Heavy Duty**
also **Plugs and Receptacles,** Polarized

PLUGS, Cartridge Fuse Attachment

Attachment Plugs with Renewable Baby Cartridge Fuses

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

PLUGS, Conduit Sealing

Wood Plugs for Sealing the Ends of Conduit; for Discs for Sealing Conduit —see Seals, Conduit

Austin Co., M. E., 116 S. Desplaines St., Chicago, Ill.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

Brocklen Underground Electrical Mfg. Co., Glenside, Pa.

Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"

Kwikon—see Fralick & Co.

United States Bung Mfg. Co., 654 Evans St., Cincinnati, Ohio

PLUGS, Dummy Fuse

For use in Locking or Sealing Disconnected Plug Cutouts or for use on Neutral Leg of Triple Pole Plug Cutouts

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.

Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y.

PLUGS, Expansion—

see **Bolts,** Expansion

PLUGS, Extension Cord Connecting

Separable Plugs for use in Connecting together Portable Cords; for Attachment Plugs—see Plugs, Separable Attachment—also Plugs, Unit Attachment

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page 54

C-H—see Cutler-Hammer

Cord-Grip—see Hubbell, Inc.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

General Electric Co., Bridgeport, Conn.

Hessel Co., W. F., 76 Greenwich St., New York, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Cord-Grip" "Twist Lock"
Cataloged on pages 70-71

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 117

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

P. & S.—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich.

R. & S.—see Russell & Stoll Co.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Teleradio Engineering Corp., 484 Broome St., New York, N. Y.

Twist Lock—see Hubbell, Inc.

Waldman, John J., 64 Murray St., New York, N. Y.

Watlow Electric Mfg. Co., 1320 N. 23d St., St. Louis, Mo.

Wirt Co., 5227 Greene St., (Germantown) Philadelphia, Pa.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

PLUGS, Fuseless—

see **Plugs,** Dummy Fuse

PLUGS, Knockout—

see **Blanks,** Knockout

PLUGS, Locking—

see **Plugs,** Dummy Fuse

PLUGS, Multiple Socket—

see **Sockets,** Multiple

PLUGS, Multiple Tap

Prong Plug Bodies to which may be attached two or more Prong Plug Caps; for Separate Attachment Plugs — see Plugs, Separable Attachment—see also Sockets, Multiple

Anylite Electric Co., 1418 Wall St., Fort Wayne, Ind.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61

Circle T—see Trumbull Electric Mfg. Co.

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Foursome"

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Electric Co., 94 Allyn St., Hartford, Conn.

Foursome—see Colt's Patent Fire Arms Mfg. Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Table Cone"

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Poloron Electric Mfg. Corp., 20 Bond St., New York, N. Y.

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Table Cone—see Hubbell, Inc.

Tecco—see Meteor Electric Corp.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"

Usalite—see United States Electric Mfg. Corp.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

PLUGS, Separable Attachment

Two part Edison Base Plug for use in Attaching Cord Connected Appliances; for Multiple Taps—see Plugs, Multiple Tap; for Polarized Attachment Plugs —see Plugs and Receptacles, Polarized

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Alcor Mfg. Co., 4607 W. Madison St., Chicago, Ill.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Spartan"
Cataloged on page 54

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 59

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cord-Grip—see Hubbell, Inc.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Electric Co., 94 Allyn St., Hartford, Conn.
General Electric Co., Bridgeport, Conn.
Globe Metal Mfg. Co., 2132 E. Hazzard St., Philadelphia, Pa.
Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Cord-"Grip" "Ke Nex"
Ke Nex—see Hubbell, Inc.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
P & S—see Pass & Seymour
Paiste—see Arrow-Hart & Hegeman Electric Co.
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Paulding, Inc., John I., (Acushnet) New Bedford, Mass.
Propp Co., M., 524 Broadway, New York, N. Y.
Reynolds Spring Co., Jackson, Mich. "Reynolite"
Reynolite—see Reynolds Spring Co.
Rodale Mfg. Co., 200 Hudson St., New York, N. Y.
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)
Snoco—see Snow & Co.
Snow & Co., E. W., 29 N. Water St., Rochester, N. Y. "Snoco"
Spartan—see Bryant Electric Co.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
U. S. Electric Co., 18 Chambers St., Trenton, N. J.
United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"
Usalite—see United States Electric Mfg. Corp.
Weber Electric Co.—see Sears, Henry D.
Wellmade Electric Mfg. Co., Torrington, Conn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

PLUGS, Socket—
see **Plugs,** Separable Attachment
also **Sockets,** Extension
also **Sockets,** Multiple

PLUGS TRANSFER—
see **Plugs and Receptacles,** Voltmeter

PLUGS, Twoway—
see **Plugs,** Multiple Tap

PLUGS, Unit Attachment
One Piece Edison Base Plugs for Connecting Portable Cords to Receptacles
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Beaver Mfg. Co., 625 N. Third St., Newark, N. J.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page **109**
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N.Y.
Paiste—see Arrow-Hart & Hegeman Electric Co.
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PLUGS, Voltmeter—
see **Plugs and Receptacles,** Voltmeter

PLUGS, Wood—
see **Plugs,** Conduit Sealing

PLUGS and RECEPTACLES, Heavy Duty
Indoor and Outdoor Type Heavy Duty Receptacles and Plugs
Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page **55**
Campbell—see Steel City Electric Co.
Delta-Star Electric Co., 2400 Block, Fulton St., Chicago, Ill.
General Electric Co., Bridgeport, Conn.
Gleason & Co., J. L., 241 Franklin St., Boston, Mass.
Hessel Co., W. F., 76 Greenwich St., New York, N. Y.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page **117**
R & S—see Russell & Stoll Co.
Ralco Mfg. Co., 141 N. Albany Ave., Chicago, Ill.
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R & S"
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Campbell"
Thoner & Martens, 463 Commercial St., Boston, Mass.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PLUGS and RECEPTACLES, Pin
Pin Type Single Plugs and Receptacles for Switchboard Mounting; for Voltmeter Plugs — see Plugs and Receptacles, Voltmeter
Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.
General Electric Co., 1 River Rd., Schenectady, N. Y.

PLUGS and RECEPTACLES, Polarized
Polarized Attachment Plugs and Receptacles; for Heavy Duty Polarized Plugs—see Plugs and Receptacles, Heavy Duty
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page **55**
C-H—see Cutler-Hammer
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
General Electric Co., Bridgeport, Conn.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Ke Nex" "Twist Lock"
Cataloged on pages **70-71**
Ke Nex—see Hubbell, Inc.
Twist Lock—see Hubbell, Inc.

PLUGS and RECEPTACLES, Voltmeter
Voltmeter Testing Receptacles for Board Mounting; for Instrument Switches—see Switches, Ammeter
Circle T—see Trumbull Electric Mfg. Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N.Y.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Trumbull Electric Mfg. Co., Plainville. Conn. "Circle T"
Westinghouse Electric & Mfg. Co.. East Pittsburgh, Pa.

PLUGS and RECEPTACLES, Watertight
Covering only Companies Cataloging this Product
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page **110**

POCKET AMMETERS—
see **Ammeters and Voltmeters,** Pocket

POCKET VOLTMETERS—
see **Ammeters and Voltmeters,** Pocket

POCKETS, Stage
Covering only Companies Cataloging this Product
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page **117**

POINTS, Contact—
see **Platinum**

POINTS, Drive—
see **Rods,** Ground

POINTS, Platinum—
see **Platinum**

POINTS, Silver—
see **Platinum**

POLARITY DIRECTIONAL RELAYS—
see **Relays,** Current Control

POLARIZED PLUGS—
see **Plugs and Receptacles,** Polarized

POLARIZED RECEPTACLES—
see **Plugs and Receptacles,** Polarized

POLE PRUNERS—
see **Tools,** Pruning

POLE STEPS—
see **Brackets,** Wood Insulator
also **Steps,** Metal Pole

POLE TOP BRACKETS—
see **Fixtures,** Street Lighting Pole Bracket

POLISH, Commutator
Polishing Compounds for use on Commutators, Armatures and Switches; for Armature Washing Compounds—see Compounds, Armature Washing; for Commutator Lubricating Compounds—see Compounds, Commutator Lubricating
Acme Abrasive Co., 1048 Webster Ave., Chicago, Ill.
Doe, Walter S., Kent, Ohio
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.

POLISHERS, Floor—
see **Machines,** Floor Finishing

POLYPHASE METER SERVICE SWITCHES—
see **Boxes,** Meter Service

POLYPHASE METERS—
see **Meters,** Watt-Hour Service

POPPERS, Electric Corn

Complete Electrically Heated Corn Poppers

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill. "Tip-Top"

Butter-Kist—see Holcomb & Hoke Mfg. Co.

Cannon Oiler Co., Keithsburg, Ill. "Kwik-pop"

Champion & Co., C. V., Danville, Ill. "Flav-Er-Rite"

Cleveland Corn Popper Co., 1293 E. Ninth St., Cleveland, Ohio

Cretors & Co., C., 620 W. 22d St., Chicago, Ill.

Dominion Electrical Mfg. Co., 722 Ontario Ave., W., Minneapolis, Minn.

Dunbar & Co., 2658 W. Lake St., Chicago Ill.

E-Z—see Keene Machine Co.

Excel Electric Co., 2507 S. Walnut St., Muncie, Ind.

Flav-Er-Rite—see Champion & Co.

Gobar Products, Anderson, Ind.

Holcomb & Hoke Mfg. Co., 1545 Van Buren St., Indianapolis, Ind. "Butter-Kist"

Hot Quick—see Mabey Electric & Mfg. Co.

Keene Machine Co., O. S., Anderson, Ind. "E-Z"

Kingery Mfg. Co., 420 E. Pearl St., Cincinnati, Ohio

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Thermo-A-Hot"

Kwikpop—see Cannon Oiler Co.

Mabey Electric & Mfg. Co., 968 Fort Wayne Ave., Indianapolis, Ind. "Hot Quick"

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Star Mfg. Co., 4569 Swan Ave., St. Louis, Mo.

Super Lectric—see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Thermo-A-Hot—see Knapp-Monarch Co.

Tip-Top—see Bersted Mfg. Co.

Valley Mfg. Co., 621 63d St., Des Moines, Iowa

White Cross—see National Stamping & Electric Works

PORCELAIN BUSHINGS—

see **Bushings, Box**

PORCELAIN INSULATORS—

see **Insulators,** Spool Type
also **Insulators,** Strain

PORCELAIN KNOBS—

see **Knobs,** Porcelain Wiring

PORCELAIN, Molders of

Contract Companies having Facilities for Molding Special Porcelain Shapes

Akron Porcelain Co., Akron, Ohio

American Porcelain Co., East Liverpool, Ohio

Burgess & Co., 209 W. Fourth St., East Liverpool, Ohio

Central Porcelain Co., Columbiana, Ohio

Colonial Insulator Co., 943 Grant St., Akron, Ohio "Hi Heat"

Cook Porcelain Insulator Corp., Cambridge, Ohio

Cook Pottery Co., Prospect St. & P. R.R., Trenton, N. J.

Davidson Porcelain Co., East Liverpool, Ohio

Hi Heat—see Colonial Insulator Co.

Imperial Porcelain Works, Mulberry St. & New York Ave., Trenton, N. J.

Lapp Insulator Co., 32 Gilbert St., Le Roy, N. Y.

Mercer Porcelain Co., Trenton, N. J.

Metsch Refractories Co., East Liverpool, Ohio

O-B—see Ohio Brass Co.

Ohio Brass Co., Mansfield, Ohio "O-B"

Porcelain Products, Inc., Findlay, Ohio

Porcelier Mfg. Co., East Liverpool, Ohio

Standard Porcelain Co., Leetonia, Ohio

Star Porcelain Co., Muirhead Ave., Trenton, N. J.

Thomas & Sons Co., R., Lisbon, Ohio

Union Electrical Porcelain Works, Muirhead Ave., Trenton, N. J.

Washington Porcelain Co., Washington, N. J.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Woolley, W. Douglas, N. E. cor. Market & Fourth Sts., East Liverpool, Ohio

PORCELAIN RECEPTACLES—

see **Receptacles,** Porcelain Candelabra or Miniature
also **Receptacles,** Porcelain Medium
also **Receptacles,** Porcelain Mogul

PORCELAIN SOCKETS—

see **Sockets,** Porcelain Candelabra or Miniature
also **Sockets,** Porcelain Medium
also **Sockets,** Porcelain Mogul

PORCELAIN SWITCH BASES—

see **Bases,** Porcelain Switch

PORCELAIN TUBES—

see **Tubes,** Porcelain Wiring

PORCH LIGHTS—

see **Fixtures,** Residential Outdoor

PORTABLE AMMETERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable

PORTABLE BLOWERS—

see **Blowers,** Electric Portable

PORTABLE CORDS—

see **Cords,** Extension

PORTABLE ELECTRIC DRILLS—

see **Drills,** Electric Portable
also **Hammers,** Electric Portable

PORTABLE GRINDERS—

see **Buffers and Grinders**

PORTABLE HAND LAMPS—

see **Lamps,** Portable Hand

PORTABLE VISE BENCHES—

see **Benches,** Portable Vise

PORTABLE VOLTMETERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable

POST CLOCKS—

see **Clocks,** Electric Master and Secondary

POSTS, Binding

Metal and Composition Terminal Binding Posts; for Binding Post Strips—see Strips, Terminal

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Doran & Sons, James C., 150 Chestnut St., Providence, R. I.

Eby Mfg. Co., H. H., N.E. Cor. 22d & Lehigh Ave., Philadelphia, Pa.

Eureka—see Morse Co.

Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.

Foote, Pierson & Co., 75 Hudson St., Newark, N. J.

Forest City Rubber Co., 1276 Ontario St., Cleveland, Ohio

H & H—see Arrow-Hart & Hegeman Electric Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Kellogg Switchboard & Supply Co., 1070 W. Adams St., Chicago, Ill.

Mohawk Corp. of Illinois, 4200 Belmont Ave., Chicago, Ill.

Morse Co., Frank W., 289 Congress St., Boston, Mass. "Eureka"

Parkin Mfg. Co., Grand Ave., San Rafael, Cal.

Philmore Mfg. Co., 106 Seventh Ave., New York, N. Y.

Pilot Electric Mfg. Co., 323 Berry St., Brooklyn, N. Y.

Polk, J. L., 41 Belle Ave., Troy, N. Y.

States Co., 17 New Park Ave., Hartford, Conn.

Stromberg-Carlson Telephone Mfg. Co., 1060 University Ave., Rochester, N. Y.

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.

POSTS, INITIALED BINDING—

see **Posts,** Binding

POSTS, Rubber Binding—

see **Posts,** Binding

POTENTIAL INDICATORS—

see **Detectors,** Voltage

POTENTIAL PHASE SHIFTERS—

see **Instruments,** Meter Testing

POTENTIOMETERS—

see **Rheostats**

POTHEADS

Junction and Splicing Boxes for use in Protecting End Joints on Sheathed Cable

Colonial Insulator Co., 943 Grant St., Akron, Ohio

Electrical Engineers Equipment Co., Melrose Park, Ill. "Three E"

G & W Electric Specialty Co., 7788 Dante Ave., Chicago, Ill.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Line Material Co., South Milwaukee, Wis.

O-B—see Ohio Brass Co.

Ohio Brass Co., Mansfield, Ohio "O-B"

Railway & Industrial Engineering Co., Greensburg, Pa.

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

Thoner & Martens, 463 Commercial St., Boston, Mass.

Three E—see Electrical Engineers Equipment Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

POTS, Electric Cooking

Kettles or Pots equipped with Heating Elements; for Fireless Cookers—see Cookers, Electric Fireless

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Excelo—see Economy Aluminum Co.

Hankscraft Co., 615 E. Washington Ave., Madison, Wis.

Hotpoint—see Edison General Electric Appliance Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Peloüze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Reimers Electric Appliance Co., 961 Angelique St., North Bergen, N. J.

Torrid—see Beardsley & Wolcott Mfg. Co.

Universal—see Landers, Frary & Clark

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

White Cross—see National Stamping & Electric Works

POTS, Electric Glue

Dry and Water Jacketed Type Pots for use in Heating Glue

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

All Rite Co., Morgan & First Sts., Rushville, Ind.

American Beauty—see American Electrical Heater Co.

American Electrical Heater Co., 6125 Woodward Ave., Detroit, Mich. "American Beauty"

Apfelectric—see Electric Heating & Mfg. Co.

Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"

Beckwith Machine Co., 402 Chestnut St., Ravenna, Ohio "Sta-Warm"

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 137

Bobbett Electric Mfg. Co., 4307 Cottage Grove Ave., Chicago, Ill.

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Dunco—see Dunn, Inc., Struthers

Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on page 72

Electric Heating & Mfg. Co., 600 Harrison St., Seattle, Wash. "Apfelectric"

Electro Engineering Co., 11712 Atlantic Ave., Richmond Hill, N. Y.

Francis Co., Chas. E., Rushville, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hold-Heet—see Russell Electric Co.

Hynes & Cox Electric Corp., 406 N. Pearl St., Albany, N. Y. "Red Crown"

International—see Liberty Electric Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Liberty Electric Co., 34 W. North St., Indianapolis, Ind. "International"

Red Crown—see Hynes & Cox Electric Corp.

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Sepco—see Automatic Electric Heater Co.

Sta-Warm—see Beckwith Machine Co.

Trent Co., Harold E., 443 E. 12th St., Philadelphia, Pa.

Universal—see Landers, Frary & Clark

Van Dorn Electric Tool Co., 300 Woodhill Rd., Cleveland, Ohio

Waage, A. H., 112 Chambers St., New York, N. Y.

Wallace & Co., J. D., 134 S. California Ave., Chicago, Ill.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

POTS, Electric Melting

Pots or Ladles for use in Melting Metals

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Beckwith Machine Co., 402 Chestnut St., Ravenna, Ohio "Sta-Warm"

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Dunco—see Dunn, Inc., Struthers

Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on page 72

Electro Engineering Co., 11712 Atlantic Ave., Richmond Hill, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

Hold-Heet—see Russell Electric Co.

Hynes & Cox Electric Corp., 406 N. Pearl St., Albany, N. Y.

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Sta-Warm—see Beckwith Machine Co.

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

POTS, Electric Solder—

see **Pots,** Electric Glue

POTS, Fire—

see **Torches and Furnaces,** Gasoline or Kerosene Blow

POTS, Non-Electric Soldering

Small Pots Used in Soldering Spliced Wires, etc.

Bart Mfg. Co., 6001 S. Talman Ave., Chicago, Ill.

POTS, Tea—

see **Kettles,** Tea

POUCHES, Glove—

see **Belts,** Lineman's

POWER AMPLIFIERS—

see **Power-Packs**

POWER BREAKERS—

see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

POWER DEMAND CONTROLLERS—

see **Relays,** Demand Limiting

POWER DIRECTIONAL RELAYS—

see **Relays,** Current Control

POWER FACTOR CONDENSERS—

see **Motors,** A. C. Synchronous

POWER FACTOR METERS—

see **Meters,** Power Factor

POWER-PACKS

Covering only Companies Cataloging this Product

TCA—see Transformer Corp. of America

Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA"
Cataloged on page 177

POWER RELAYS—

see **Relays,** Current Control

POWER TRANSFORMERS—

see **Transformers,** Radio Power

POWER UNITS—

see **Power-Packs**

PRESSBOARD—

see **Paper,** Fullerboard and Pressboard

PRESSERS, Electric Neckwear

Heating Appliance for Pressing Ties

Hare Mfg. Co., 15th & Locust Sts., Philadelphia, Pa. "TyBoy"

TyBoy—see Hare Mfg. Co.

PRESSES, Electric Baling

Screw and Hydraulic Type Motor Driven Presses

Davenport Mfg. Co., Davenport, Iowa "Schick"

Economy Baler Co., Ann Arbor, Mich.

Schick—see Davenport Mfg. Co.

PRESSES, Insulation Molding—

see **Machines,** Plastic Molding

PRESSURE OPERATED SWITCHES—

see **Switches,** Pressure Operated

PRISMATIC REFLECTORS—

see **Shades,** Metal and Glass

PROGRAM CLOCKS—

see **Clocks,** Electric Program

PROJECTORS, Airport Ceiling—

see **Fixtures,** Airport Lighting

PROJECTORS, Flood Lighting

Indoor and Outdoor Type Reflectors for Lighting Signs, Buildings, Show Windows, etc.

American Appliance Co., 317 N. Church St., Kalamazoo, Mich.

B. B. T. Corp. of America, Atlantic Bldg., Philadelphia, Pa.

BEL-SUN-LITE—see Belson Mfg. Co.

Belson Mfg. Co., 806 Sibley St., Chicago, Ill. "BEL-SUN-LITE"

Benjamin Electric Mfg. Co., Des Plaines, Ill. "Projectolite"
Cataloged on page 108

Bohling, Frederick A., 503 W. 43d St., New York, N. Y.

Brenkert Light Projection Co., 7348 St. Aubin Ave., Detroit, Mich.

Cahill Brothers, 519 W. 45th St., New York, N. Y.

Carlisle & Finch Co., 231 E. Clifton Ave., Cincinnati, Ohio

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "X-Ray"

Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa.

Elkay Reflector Corp., 100 Grand Ave., Brooklyn, N. Y.

Ender Mfg. Co., 213 Grand St., New York, N. Y.

Flolight—see Hutchison Engineering Works

Flood-O-Lite—see Reflector & Illuminating Co.

Frink Corp., 369 Lexington Ave., New York, N. Y. "Spot-O-Flod"

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 90

Giant Mfg. Co., South Ave., Council Bluffs, Iowa

PROJECTORS, Flood Lighting (Continued)

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Wholesalers)
Cataloged on page 87

Hub Electric Co., 2219 W. Grand Ave., Chicago, Ill.

Hutchison Engineering Works, 549 Washington Blvd., Chicago, Ill. "Flolight"

Ivanhoe Division of Miller Co., 5716 Euclid Ave., Cleveland, Ohio

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on pages 116-117

Major Equipment Co., 4619 Fullerton Ave., Chicago, Ill.

Marbelite Art Products Co., 2652 W. Lake St., Chicago, Ill.

Milwaukee Electric Switchboard Co., 156 Clinton St., Milwaukee, Wis.

Motor City Electric Co., 316 E. Jefferson Ave., Detroit, Mich.

National Appliance Co., Jackson, Mich.

New England Lighting Products Co., 19 Calender St., Providence, R. I.

Oamco—see Overbagh & Ayres Mfg. Co.

Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"

Permaflector—see Pittsburgh Reflector Co.

Pittsburgh Reflector Co., 304 Ross St., Pittsburgh, Pa. "Permaflector"
Cataloged on page 113

Projectolite—see Benjamin Electric Mfg. Co.

Pyle-National Co., 1358 N. Kostner Ave., Chicago, Ill.

Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Flood-O-Lite"
Cataloged on page 115

Spot-O-Flod—see Frink Corp.

Sun-Ray Lighting Products, Inc., 119 Lafayette St., New York, N. Y.

Sunlight Reflector Co., 226 Pacific St., Brooklyn, N. Y.

Sun Shine, Inc., Lynn, Mass.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 101

X-Ray—see Curtis Lighting

PROPELLER FANS—

see **Fans,** Electric Propeller

PROTECTION GLOVES—

see **Gloves,** Lineman's Leather

PROTECTORS, Conduit Thread

Paper, Fibre or Metal Rings and Caps to protect Conduit Thread During Shipment

Enameled Metals Co., 61 Bridge St., Pittsburgh, Pa.

Wedge Thread Protector Co., 3407 Vega Ave., Cleveland, Ohio

PRUNERS, Tree—

see **Tools,** Pruning

PRUNING TOOLS—

see **Tools,** Pruning

PULL BOXES—

see Boxes, Pull

PULL CHAIN—

see Chain, Ball or Bead

PULL LEVER BOXES—

see **Boxes,** Fire Alarm

PULL SWITCHES—

see **Switches,** Ceiling Pull

PULLERS, Fish Tape

Special Comealongs designed to Grip Fish Tape; for Cable and Wire Grips—see Grips, Cable and Wire

Chicago—see Klein & Sons

Crescent—see Mullenbach Electric Mfg. Co.

Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill. "Chicago"

Mullenbach Electric Mfg. Co., 1116 E. 16th St., Los Angeles, Cal. "Crescent"

PULLERS, Fuse—

see **Tongs,** Fuse and Wire

PULLEY SOCKETS—

see **Fixtures,** Industrial Indoor

PULLEYS, Iron or Steel

Plain, Step and Cone Pulleys for Machinery or Line Shafts

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

American Pulley Co., 4200 Wissahickon Ave., Philadelphia, Pa.

Birkle Machine Works, 456 N. Union Ave., Chicago, Ill.

Brown Co., A. & F., Elizabeth, N. J.

Dodge Mfg. Corp., Union St. & N. Y. C. R.R., Mishawaka, Ind.

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

PULLEYS, Paper

Plain Pulleys of Paper, Fibre or Pasteboard for Machinery or Line Shafts

Best Pulley Mfg. Co., 400 Talcott Ave., St. Louis, Mo.

Browning—see Ohio Valley Pulley Works

Ohio Valley Pulley Works, Central Ave., Main & Chester Sts., Maysville, Ky. "Browning"

Rockwood Mfg. Co., 1801 English Ave., Indianapolis, Ind.

Sprucolite Corp., Bloomfield, N. J.

PULLEYS, Steel—

see **Pulleys,** Iron or Steel

PULLEYS, Wood

Plain, Step and Cone Pulleys for Machinery or Line Shafts

Compressed Spruce Products Co., West Orange, N. J.

Dodge Mfg. Corp., Union St. & N. Y. C. R.R., Mishawaka, Ind.

Limestone—see Ohio Valley Pulley Works

Medart Co., Potomac & De Kalb Sts., St. Louis, Mo.

Ohio Valley Pulley Works, Central Ave., Main & Chester Sts., Maysville, Ky. "Limestone"

Reeves Pulley Co., 1225 Seventh St., Columbus, Ind.

Saginaw Mfg. Co., 122 King St., Saginaw, Mich.

PUMP DRIVES—

see **Jacks,** Motor Driven Pump

PUMP JACKS—

see **Jacks,** Motor Driven Pump

PUMPS, Clothes Washer Draining

Electrically Operated Pumps designed for use in Draining Washing Machines

Kendrick & Davis Co., Lebanon, N. H.

PUNCHINGS, Fibre—

see **Fibre,** Vulcanized
also **Insulation,** Synthetic

PUNCHINGS, Laminated Phenolic—

see **Insulation,** Synthetic

PUNCHINGS, Mica—

see Mica

PUNCHINGS, Phenolic—

see **Insulation,** Synthetic

PUNCHINGS, Synthetic Insulation—

see **Insulation,** Synthetic

PURIFIERS, Air—

see **Generators,** Industrial Ozone
also **Generators,** Therapeutical Ozone

PUSH BUTTONS—

see **Buttons,** Floor and Attachment Push
also **Buttons,** Flush Push
also **Buttons,** High Voltage Push
also **Buttons,** Pendent Push
also **Buttons,** Surface Push

PUSH-PULL TRANSFORMERS—

see **Transformers,** Audio Frequency

PUSH SWITCHES—

see **Switches,** Cord
also **Switches,** Flush Push
also Switches, Momentary Contact

PUSH THROUGH SWITCHES—

see Switches, Cord

PYROGRAPH PENS—

see **Pens,** Pyrograph

PYROMETER TUBES—

see Tubes, Pyrometer

PYROMETERS, Electric

Instruments for Measuring High Temperatures; for Measuring Low Temperatures—see Thermometers, Electric

Beckwith Machine Co., 402 Chestnut St., Ravenna, Ohio "Price"

Bristol Co., Waterbury, Conn.

Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa.

Cleveland Instrument Co., 1988 E. 66th St., Cleveland, Ohio

Engelhard, Inc., Chas., 90 Chestnut St., Newark, N. J.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.

Illinois Testing Laboratories, 141 W. Austin Ave., Chicago, Ill.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

Price—see Beckwith Machine Co.

Queen—see Gray Instrument Co.

Republic Flow Meters Co., 2240 Diversey Blvd., Chicago, Ill.

Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa.

Tapalog—see Wilson-Maeulen Co.

Taylor Instrument Companies, 95 Ames St., Rochester, N. Y. "Tycos"

Thwing Instrument Co., 3341 Lancaster Ave., Philadelphia, Pa.

Tycos—see Taylor Instrument Companies

Wilson-Maeulen Co., 383 Concord Ave., New York, N. Y. "Tapalog"

QUARTZ, Insulation—

see **Insulation,** Quartz

QUICK BREAK KNIFE SWITCHES—

see Switches, Quick Break Knife

RACEWAY, Metal—
see **Molding,** Ornamental Metal
also **Molding and Fittings,** Metal

RACKS, Storage Battery—
see **Batteries,** Small Capacity Storage

RADIANT HEATERS—
see Heaters, Portable Radiant
also Heaters, Stationary Radiant

RADIATION PYROMETERS—
see **Pyrometers,** Electric

RADIATOR HEATING UNITS—
see **Units,** Steam Radiator Heating

RADIATORS, Electric Fluid Type
Fluid Filled Radiators with Built-In Heating Elements

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Amco—see Apex Mfg. Co.
American Radiator Co., 40 W. 40th St., New York, N. Y. "Corto"
Apex Mfg. Co., Landregan & Powell Sts., (Emeryville) Oakland, Cal. "Amco"
Buffalo Gas Radiator Corp., North Tonawanda, N. Y. "Niagara"
Corto—see American Radiator Co.
Electric Steam Radiator Co., 513 Stewart St., Seattle, Wash.
Landerman-Cassels Mfg. Co., 55 W. 42d St., New York, N. Y.
Niagara—see Buffalo Gas Radiator Corp.
Nocare—see Ross Safety Switch Corp.
Ross Safety Switch Corp., 1 E. 42d St., New York, N. Y. "Nocare"

RADIO ANTENNA INSULATORS—
see **Insulators,** Radio Antenna

RADIO "B" BATTERIES—
see **Batteries,** Primary Dry

RADIO INTERFERENCE FILTERS—
see **Filters,** Radio Interference

RADIO INTERFERENCE LOCATORS—
see **Detectors,** Voltage

RADIO LIGHTNING ARRESTERS—
see **Arresters,** Radio Lightning

RADIO RECEPTACLES—
see **Jacks,** Wall Receptacle

RADIUM COMPOUNDS—
see Compounds, Luminous

RAILROADS, Toy—
see Toys, Electric

RANGE ELEMENTS—
see **Elements,** Range

RANGE SWITCHES—
see **Switches,** Series Multiple Snap

RANGES, Combination Fuel and Electric
Household Type Cooking Ranges equipped to use either Coal or Gas, and Electricity

Champion Stove Co., 3945 W. 25th St., Cleveland, Ohio
Estate Stove Co., Hamilton, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **104**

RANGES, Electric Household
Household Type Cooking Ranges; for Combination Gas and Electric Ranges —see Ranges, Combination Fuel and Electric

Acorn—see Standard Gas Equipment Corp.
Armstrong Electric & Mfg. Corp., 1018 Seventh St., Huntington, W. Va.
Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Sepco"
Barth & Son, L., 32 Cooper Sq., New York, N. Y.
Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid" "Wilwear"
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Buckwalter Stove Co., Royersford, Pa.
Campbell Co., Wm., 1000 N. Union Ave., Alliance, Ohio
Case Electric Corp., 11th & Adams Sts., Marion, Ind. "Ev'ryday"
Cedar Grove Stove Co., Cedar Grove, Wis.
Champion Stove Co., 3945 W. 25th St., Cleveland, Ohio
Conso—see Consolidated Electrical Appliances Co.
Consolidated Electrical Appliances Co., Kresson & O'Donnell Sts., Baltimore, Md. "Conso"
Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio
Crawford—see Walker & Pratt Mfg. Co.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Electro-Master, Inc., 1803 E. Atwater St., Detroit, Mich.
Electric Belle Range Co., Huntsville, Ala.
Empire—see Metal Ware Corp.
Estate Stove Co., Hamilton, Ohio
Everhot—see Swartzbaugh Mfg. Co.
Ev'ryday—see Case Electric Corp.
Favorite Stove & Range Co., Piqua, Ohio "Impervio"
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"
Florence Stove Co., Kankakee, Ill.
Frugal Electric Mfg. Co., 2249 Beechmont Ave., (Mt. Washington) Cincinnati, Ohio
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.
Griswold Mfg. Co., 1001 W. 12th St., Erie, Pa.
Hotpoint—see Edison General Electric Appliance Co.
Impervio—see Favorite Stove & Range Co.
L & H—see Lindemann & Hoverson Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee. Wis. "L & H"
Loth Stove Co., W. J., Waynesboro, Va.
Magee Furnace Co., Taunton, Mass.
Malleable Iron Range Co., 310 Lake St., Beaver Dam, Wis. "Monarch"
Marion—see Rutenber Electric Co.
Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"
Monarch—see Malleable Iron Range Co.
National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"
New Era Electric Range Co., 50 E. 42d St., New York, N. Y.
Peninsular Stove Co., 1417 W. Fort St., Detroit, Mich.
Roberts & Mander Stove Co., 11th & Washington Ave., Philadelphia, Pa.
Rutenber Electric Co., Marion, Ind. "Marion"
Sepco—see Automatic Electric Heater Co.
Serelco, Inc., 420 Lexington Ave., New York, N. Y.
Simplex Electric Heating Co., 85 Sidney St., Cambridge, Mass.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Standard Gas Equipment Corp., Aurora, Ill. "Acorn"
Star-Rite—see Fitzgerald Mfg. Co.
Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"
Torrid—see Beardsley & Wolcott Mfg. Co.
Universal—see Landers, Frary & Clark
Van Range Co., John, 31st & Robertson Rd., (Oakley) Cincinnati, Ohio
Walker & Pratt Mfg. Co., 31 Union St., Boston, Mass. "Crawford"
Wehrle Co., Newark, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
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White Cross—see National Stamping & Electric Works
Wilwear—see Beardsley & Wolcott Mfg. Co.

RATCHET BRACES—
see Braces, Angle and Ratchet

RATIO DIFFERENTIAL RELAYS—
see **Relays,** Current Control

RAWHIDE GEARS and PINIONS—
see Gears and Pinions, Rawhide

RAZORS, Electric Safety
Motor Operated or Vibrator Type Safety Razors

Electric Razor Corp., 522 Fifth Ave., New York, N. Y. "Vibro-Shave"
Vibro-Shave—see Electric Razor Corp.

REAMERS, Conduit
Hand Operated Tools for use in Reaming Conduit, etc.

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.
Armstrong Mfg. Co., Knowlton St., Bridgeport, Conn.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.
Erie Tool Works, 11th & French Sts., Erie, Pa.
Greenfield Tap & Die Corp., Sanderson St., Greenfield, Mass.
Morse Twist Drill & Machine Co., 163 Pleasant St., New Bedford, Mass.
Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.
Pratt & Whitney Co., 436 Capitol Ave., Hartford, Conn.
Toledo Pipe Threading Machine Co., 1425 Summit St., Toledo, Ohio
Walworth Co., Statler Bldg., Boston, Mass.

REAMERS, Pipe—
see **Reamers,** Conduit

RECEPTACLE ADAPTERS—
see Plugs, Separable Attachment
also Sockets, Multiple

RECEPTACLE BASES—
see **Receptacles,** Metal Shell
also **Receptacles,** Porcelain

RECEPTACLE BODIES—
see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

RECEPTACLES, Battery Charging—
see **Plugs and Receptacles,** Heavy Duty

RECEPTACLES, Candelabra—
see **Receptacles,** Metal Shell Candelabra or Miniature
also **Receptacles,** Porcelain Candelabra or Miniature

RECEPTACLES, Cleat—
see **Receptacles,** Porcelain Medium
also **Receptacles,** Porcelain Mogul

RECEPTACLES, Conduit Box—
see **Receptacles,** Metal Shell Medium
also **Receptacles,** Porcelain Medium

RECEPTACLES, Fixture Supporting
Outlet Bar Receptacles with Contacts and Supports for a Separable Fixture Supporting Plug

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Economy Fuse & Mfg. Co., Greenview Ave. at Diversey Pkwy., Chicago, Ill. "Elexit"

Elexit—see Economy Fuse & Mfg. Co.

H & H—see Arrow-Hart & Hegeman Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

RECEPTACLES, Floor—
see **Boxes,** Adjustable Floor
also **Boxes,** Floor Receptacle

RECEPTACLES, Flush
Single and Duplex Receptacles for Baseboard and Wall Mounting to receive Attachment Plugs; for Floor Receptacles—see Boxes, Floor Receptacle

A & W—see Armstrong & White

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Spartan"
Cataloged on page 55

C-H—see Cutler-Hammer

Chapin Co., Chas. E., 227 Fulton St., New York, N. Y.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 59

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.
Cataloged on page 64

H & H—see Arrow-Hart & Hegeman Electric Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn. "Ke Nex" "Twist Lock"
Cataloged on pages 70-71

Ke Nex—see Hubbell, Inc.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Propp Co., M., 524 Broadway, New York, N. Y.

R. & S.—see Russell & Stoll Co.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Spartan—see Bryant Electric Co.

Square D Co., 6060 Rivard St., Detroit, Mich.

Tecco—see Meteor Electric Corp.

Trenle Porcelain Co., East Liverpool, Ohio

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Twist Lock—see Hubbell, Inc.

Weber Electric Co.—see Sears, Henry D.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

RECEPTACLES, Indicating
Combination Receptacles having Concealed Contacts for Pilot Lights

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

RECEPTACLES, Medium—
see **Receptacles,** Metal Shell Medium
also **Receptacles,** Porcelain Medium

RECEPTACLES, Metal Shell Candelabra or Miniature
For Porcelain Candelabra and Miniature Receptacles—see Receptacles, Porcelain Candelabra or Miniature

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

RECEPTACLES, Metal Shell Medium
For Medium Porcelain Receptacles—see Receptacles, Porcelain

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "New Wrinkle"

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 57

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.
Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

New Wrinkle—see Bryant Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

RECEPTACLES, Metal Shell Mogul
Key, Keyless and Pull Type Receptacles with Metal Shells

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

RECEPTACLES, Miniature—
see **Receptacles,** Metal Shell Candelabra or Miniature
also **Receptacles,** Porcelain Candelabra or Miniature

RECEPTACLES, Mogul—
see **Receptacles,** Metal Shell Mogul
also **Receptacles,** Porcelain Mogul

RECEPTACLES, Outlet Box—
see **Receptacles,** Porcelain Medium

RECEPTACLES, Pilot Light—
see **Receptacles,** Indicating

RECEPTACLES, Plug—
see **Plugs and Receptacles,** Polarized
also **Receptacles,** Flush

RECEPTACLES, Polarized—
see **Plugs and Receptacles,** Polarized

RECEPTACLES, Porcelain Candelabra or Miniature
For Metal Shell Candelabra and Miniature Receptacles — see Receptacles, Metal Shell Candelabra or Miniature

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Propp Co., M., 524 Broadway, New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

RECEPTACLES, Porcelain Medium

For Metal Shell Medium Receptacles—see Receptacles, Metal Shell Medium

A & W—see Armstrong & White

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bridgeport Switch Co., 209 Center St., Bridgeport, Conn.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "New Wrinkle"
Cataloged on pages 54-55

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on pages 58-59

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Federal Electric Co., 8700 S. State St., Chicago, Ill.

General Electric Co., Bridgeport, Conn.
Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

New Wrinkle—see Bryant Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Porcelain Products, Inc., Findlay, Ohio

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Tecco—see Meteor Electric Corp.

Trenle Porcelain Co., East Liverpool, Ohio

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

Weber Electric Co.—see Sears, Henry D.

Wiring Devices, Inc., 5 High St., Trenton, N. J.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

RECEPTACLES, Porcelain Mogul

Receptacles with Bodies of Porcelain

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 58

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D

RECEPTACLES, Radio—

see **Jacks,** Wall Receptacle

RECEPTACLES, Sign—

see **Receptacles,** Porcelain Medium

RECEPTACLES, Telephone—

see **Jacks,** Wall Receptacle

RECEPTACLES, Vaporproof—

see **Fixtures,** Vaporproof

RECEPTACLES, Voltmeter—

see **Plugs and Receptacles,** Voltmeter

RECEPTACLES, Watertight—

see **Plugs,** and Receptacles, Watertight

RECEPTACLES, Weatherproof

Receptacles designed for Outdoor Use

A & W—see Armstrong & White

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

R. & S.—see Russell & Stoll Co.

Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.

Tecco—see Meteor Electric Corp.

Weber Electric Co.—see Sears, Henry D.

RECEPTACLES and PLUGS, Heavy Duty—

see **Plugs and Receptacles,** Heavy Duty

RECORDERS, Meter Reading

For Installation on Service Meters to Manually Record the Reading

Economy Appliance Co., Waterloo, Iowa "Redrite"

Redrite—see Economy Appliance Co.

RECORDERS, Temperature—

see **Thermometers,** Electric

RECORDING AMMETERS—

see **Ammeters and Voltmeters,** Portable also **Ammeters and Voltmeters,** Switchboard Type

RECORDING DEMAND METERS—

see **Meters,** Demand

RECORDING PYROMETERS—

see **Pyrometers,** Electric

RECORDING VOLTMETERS—

see **Ammeters and Voltmeters,** Switchboard Type

RECTIFIER TUBES—

see **Tubes,** Rectifier

RECTIFIERS, Battery Charging Bulb

Complete Apparatus for Converting the House Lighting Current from A. C. to D. C. by a Rectifier Tube

Acme Electric & Mfg. Co., 1444 Hamilton Ave., Cleveland, Ohio "Directo"

Adams-Barre Co., 1244 N. High St., Columbus, Ohio "Scioto"

Argon—see Holmes Electrical Mfg. Co.

Burton-Rogers Co., 857 Boylston St., Boston, Mass. (Sole Distributors for Heyer Products Co., Newark, N. J.) "Everymans"

Campbell Electric Mfg. Co., 19 Stewart St., Lynn, Mass.

Debco—see Detroit Battery Charger Co.

Detroit Battery Charger Co., 3683 Willis Ave., E., Detroit, Mich. "Debco"

Directo—see Acme Electric & Mfg. Co.

Economy Electrical Mfg. Co., 1655 Cleveland Ave., Kansas City, Mo.

Electric Heat Control Co., 5902 Carnegie Ave., Cleveland, Ohio "King"

Everymans—see Burton-Rogers Co.

F-F—see France Mfg. Co.

Fore Electrical Mfg. Co., 5255 Wabada Ave., St. Louis, Mo.

France Mfg. Co., 10321 Berea Rd., Cleveland, Ohio "F-F"

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn. "Tungar"

Handy—see Interstate Electric Co.

Heyer Products Co.—see Burton-Rogers Co.

Holmes Electrical Mfg. Co., 5116 Ravenswood Ave., Chicago, Ill. "Argon"

Interstate Electric Co., 4339 Duncan Ave., St. Louis, Mo. "Handy"

Kalb Electric Co., 2711 Big Bend Blvd., St. Louis, Mo. "Kombinator De Luxe"

King—see Electric Heat Control Co.

Kombinator De Luxe—see Kalb Electric Co.

Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.

Perfex Electric Co., 124 Southard Ave., Toledo, Ohio

Rectigon—see Westinghouse Electric & Mfg. Co.

Reflex Spark Plug Co., 10804 Berea Rd., Cleveland, Ohio

Scioto—see Adams-Barre Co.

Sterling Mfg. Co., 2835 Prospect Ave., Cleveland, Ohio

Tungar—see General Electric Co.

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Rectigon"
Cataloged on page 101

RECTIFIERS, Battery Charging Electrolytic or Chemical

Complete Apparatus for Converting the House Lighting Current from A. C. to D. C. by Electrochemical Action

American Battery Co., 2053 N. Racine Ave., Chicago, Ill.

B-L Electric Mfg. Co., 19th St. & Washington Ave., St. Louis, Mo.

Eaco—see Economic Appliance Co.

Economic Appliance Co., Water St., Irwin, Pa. "Eaco"

Elkon Works, 515 Gregory Ave., Weehawken, N. J.

Gould Storage Battery Co., Depew, N. Y.

Harsha Battery Co., 212 E. 21st St., Chicago, Ill.

Johnson Motor Products Co., 1401 Carroll Ave., Chicago, Ill.

Kodel Electric & Mfg. Co., 507 E. Pearl St., Cincinnati, Ohio "Silite"

Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.

Silite—see Kodel Electric & Mfg. Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Willard Storage Battery Co., 246 E. 131st St., Cleveland, Ohio

RECTIFIERS, Battery Charging Vibrator or Mechanical

Complete Apparatus for Converting the House Lighting Current from A. C. to D. C. by Vibrator or Mechanical Action

Advance Electric Co., 1260 W. Second St., Los Angeles, Cal. "Sync"

Apco Mfg. Co., 1200 Eddy St., Providence, R. I.

Fore Electrical Mfg. Co., 5255 Wabada Ave., St. Louis, Mo.

Ful-Wave—see Liberty Electric Corp.

Holmes Electrical Mfg. Co., 5116 Ravenswood Ave., Chicago, Ill.

Liberty Electric Corp., Fairfield Ave., Stamford, Conn. "Ful-Wave"

Sterling Mfg. Co., 2835 Prospect Ave., Cleveland, Ohio

Sync—see Advance Electric Co.

Valley Electric Co., 4515 Shaw Ave., St. Louis, Mo.

RECTIFIERS, Chemical—

see **Rectifiers,** Battery Charging Electrolytic or Chemical

RECTIFIERS, Magnetic—

see **Rectifiers,** Battery Charging Vibrator or Mechanical

RECTIFIERS, Mechanical—

see **Rectifiers,** Battery Charging Vibrator or Mechanical

RECTIFIERS, Motor-Generator—

see **Motor-Generators,** Battery Charging

RECTIFIERS, Vibrator—

see **Rectifiers,** Battery Charging Vibrator or Mechanical

REDUCERS, Electric—

see **Exercisers,** Electric

REDUCERS, Fuse—

see **Adapters,** Fuse

REDUCERS, Socket—

see **Adapters,** Socket

REDUCERS, Speed

Covering only Companies Cataloging this Product

Janette Mfg. Co., 558 W. Monroe St., Chicago, Ill.
Cataloged on page 92

REDUCTIONS, Gear—

see **Reducers,** Speed

REELS, Automatic—

see **Reels,** Extension Cord

REELS, Cable

Large Wooden Reels for Holding Cable Stock

American Insulating Machy. Co., 519 Huntingdon St., Philadelphia, Pa.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Leach Co., 412 S. Main St., Oshkosh, Wis "OshKosh"

Newhall Corp., Henry B., Garwood, N. J.

OshKosh—see Leach Co.

REELS, Extension Cord

Automatic Motor or Manual Reels to take up Slack and hold Portable Cord or Cable

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill. "Reelite"

Autex—see Cincinnati Specialty Mfg. Co.

Cincinnati Specialty Mfg. Co., 1907 Powers St., Cincinnati, Ohio "Autex"

Gleason & Co., J. L., 241 Franklin St., Boston, Mass.

Hayward Co., 50 Church St., New York, N. Y.

Reelite—see Appleton Electric Co.

REELS, Payout—

see **Reels,** Wire

REELS, Spring—

see **Reels,** Extension Cord

REELS, Take-Up—

see **Reels,** Extension Cord

REELS, Wire

Reels for use in holding Coils of Wire; for Large Heavy Reels—see Reels, Cable

Baird Machine Co., Bridgeport, Conn.

Columbus Handle & Tool Corp., 14th St. & Big Four R. R., Columbus, Ind., "Sturd E"

Delphey—see Ready Mfg. Co.

Hykon Mfg. Co., 163 E. State St., Alliance, Ohio

Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo.

Minneapolis Electric & Construction Co., 80 S. 12th St., Minneapolis, Minn.

Ready Mfg. Co., Toledo, Ohio "Delphey"

Sleeper & Hartley, 335 Chandler St., Worcester, Mass.

Sturd E—see Columbus Handle & Tool Corp.

Waldman, John J., 64 Murray St., New York, N. Y.

REFLECTORS, Enameled Metal—

see **Shades,** Metal and Glass

REFLECTORS, Metal and Glass—

see **Shades,** Metal and Glass

REFRACTORY CORES—

see **Cores,** Refractory

REFRACTORY TUBES—

see **Tubes,** Pyrometer

REFRIGERATOR CABINETS—

see **Cabinets,** Refrigerator

REFRIGERATORS, Electric Household

Complete Refrigerating Units for Household use; for Refrigerator Cabinets—see Cabinets, Refrigerator

Absopure—see General Necessities Corp.

Automatic Freezer Corp., Hillsdale, Mich.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Refrigerator Corp., New Milford, Pa.

Calvert Electric Refrigeration Co.—see Poole Engineering & Machine Co.

Chilrite—see Narragansett Machine Co.

Coldak Corp., 1775 Broadway, New York, N. Y.

Copeland Products, Inc.—see Copeland Sales Co.

Copeland Sales Co., 630 Lycaste St., Detroit, Mich. (Sole Distributors for Copeland Products, Inc., Detroit, Mich.)

Delco-Light Co., 334 N. Taylor St., Dayton, Ohio "Frigidaire"

Devon Mfg. Co., 2 Brooks St., Brighton, Mass.

Electrice—see Belding-Hall Co.

Electro-Kold Corp., 151 S. Post St., Spokane, Wash.

Freezel Corp., 483 Main St., Gardner, Mass.

Frigidaire—see Delco-Light Co.

General Electric Co., Hanna Bldg., Cleveland, Ohio

General Necessities Corp., Park & Adams Sts., Detroit, Mich. "Absopure"

Hibbard Cabinets, Inc., 6504 Euclid Ave., Cleveland, Ohio

Hvid Ice Machine Corp., First National Bank Bldg., Chicago, Ill.

Ice-Berg Mfg. Co., 280 Main St., Gardner, Mass.

Iron Mountain Co., 939 E. 95th St., Chicago, Ill. "Zerozone"

Isko Co., 2525 Clybourn Ave., Chicago, Ill.

Kelvinator Corp., 14250 Plymouth Rd., Detroit, Mich.

Keokuk Refrigerating Co., Keokuk, Iowa

Mechana-Kold Corp., Arcade, N. Y.

Merchant & Evans Co., 21st St. & Washington Ave., Philadelphia, Pa.

Narragansett Machine Co., Pawtucket, R. I. "Chilrite"

Nizer Corp., 7424 Mackie St., Detroit, Mich.

Norge Corp., 670 E. Woodbridge St., Detroit, Mich.

Poole Engineering & Machine Co., (Woodberry) Baltimore, Md. (Sole Distributors for Calvert Electric Refrigeration Co., Baltimore, Md.)

Rice Products, Inc., 100 E. 42 St., New York, N. Y.

Servel, Inc., 51 E. 42d St., New York, N. Y.

Superior Iceless Refrigerator, Inc., 810 Savannah Ave., N. W., Canton, Ohio

Trupar Mfg. Co., 140 Davis Ave., Dayton, Ohio

Universal Cooler Corp., 1214 18th St., Detroit, Mich.

Warner Stacold Corp., Manufacturers Exchange Bldg., Kansas City, Mo.

Warner Steel Products Co., Ottawa, Kan.

Wayne Home Equipment Co., 102 Glasgo Ave., Ft. Wayne, Ind.

Welsbach Co., Essex & Ellis Sts., Gloucester City, N. J.

Williams Oil-O-Matic Heating Corp., Bloomington, Ill.

Zerozone—see Iron Mountain Co.

REGULATORS, Furnace Temperature

Thermostat Controlled Motor Operated Furnace Controls

American Thermostat Co., 226 Jelliff Ave., Newark, N. J.

Johnson Service Co., 149 Michigan Ave., Milwaukee, Wis.

Minneapolis-Honeywell Regulator Co., Wabash, Ind.

Sheer Co., H. M., Second & Hampshire Sts., Quincy, Ill.

Teeple Co., L. R., 540 E. Ninth St., Portland, Ore.

Time-O-Stat Controls Co., Elkhart, Ind.

REGULATORS, Meter Test Induction—

see **Instruments,** Meter Testing

REGULATORS, Motor Speed—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

REINFORCED CORD—

see **Cord,** Heavy Duty

RELAY SWITCHES—

see **Relays,** Signal

RELAY TEST SWITCHES—

see **Instruments,** Meter Testing

RELAY TESTING INSTRUMENTS—
see **Instruments,** Meter Testing

RELAYS, Bell Alarm—
see **Relays,** Signal

RELAYS, Burglar Alarm—
see **Relays, Signal**

RELAYS, Current Control
For Making or Breaking the Current Flowing in one Circuit by means of a Change in the same or in another Circuit—see also Relays, Signal

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Automatic Reclosing Circuit Breaker Co., Sixth St. & Indianola Ave., Columbus, Ohio
Automatic Switch Co., 154 Grand St., New York, N. Y.
Burke Controller Co., 369 Lexington Ave., New York, N. Y.
C-H—see Cutler-Hammer
Circle T—see Trumbull Electric Mfg. Co.
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Diamond H—see Hart Mfg. Co.
Dunco—see Dunn, Inc., Struthers
Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on page 72
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
I-T-E Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.
Nocare—see Ross Safety Switch Corp.
Palmer Electric & Mfg. Co., Pond & Exchange Sts., Waltham, Mass.
R-C-O-C—see South Bend Current Controller Co.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Ross Safety Switch Corp., 1 E. 42d St., New York, N. Y. "Nocare"
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
South Bend Current Controller Co., 247 Laporte Ave., South Bend, Ind. "R-C-O-C"
Steelcity Furnace Co., Pittsburgh, Pa.
Sundh Electric Co., 5 Ave. C, Newark, N. J.
Takamine Corp., 35-10 36th Ave., Long Island City, N. Y.
Teeple Co., L. R., 540 E. Ninth St., Portland, Ore.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Warsaw Elevator Co., Warsaw, N. Y.
Western Electro-Mechanical Co., 131 Broadway, Oakland, Cal.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

RELAYS, Demand Limiting
Relay Assembly which Operates at a Predetermined Ampere Draw

Automatic Electric Heater Co., 1706 Race St., Philadelphia, Pa. "Clark"
Clark—see Automatic Electric Heater Co.
Edmoore—see Moore, Edward T.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Moore, Edward T., Cahill Bldg., Syracuse, N. Y. "Edmoore"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

RELAYS, Differential—
see **Relays,** Current Control

RELAYS, Fire Alarm—
see **Relays,** Signal

RELAYS, Overload—
see **Relays,** Current Control

RELAYS, Overvoltage—
see **Relays,** Current Control

RELAYS, Phase Rotation—
see **Relays,** Current Control

RELAYS, Polarity Directional—
see **Relays,** Current Control

RELAYS, Power—
see **Relays,** Current Control

RELAYS, Power Directional—
see **Relays,** Current Control

RELAYS, Pressure—
see **Switches,** Pressure Operated

RELAYS, Reverse Phase—
see **Relays,** Current Control

RELAYS, Reverse Power—
see **Relays,** Current Control

RELAYS, Signal
Low Voltage Relays designed to operate Audibile or Visible Signals; for Remote Control Switches—see Switches, Magnetic

Automatic Switch Co., 154 Grand St., New York, N. Y.
Benjamin Electric Mfg. Co., Des Plaines, Ill. "Telecode"
Cataloged on page 109
Bunnell & Co., J. H., 32 Park Pl., New York, N. Y.
Burke Controller Co., 369 Lexington Ave., New York, N. Y.
Diamond H—see Hart Mfg. Co.
Dunco—see Dunn, Inc., Struthers
Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on pages 72-73
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Faraday—see Stanley & Patterson
Gamewell Co., 1238 Chestnut St., Newton Upper Falls, Mass. (Sole Distributors for Stewart Machine Co., Waltham, Mass.)
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.
Lake Mfg. Co., 1723 Poplar St., Oakland, Cal.
National Scale Corp., 9 Montgomery St., Chicopee Falls, Mass.
Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.
Pehrson Mfg. Co., 103 Park Ave., New York, N. Y.
Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Stewart Machine Co.—see Gamewell Co.
Telecode—see Benjamin Electric Mfg. Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wilcolator Co., 17 Nevada St., Newark, N. J.

RELAYS, Temperature
Relays which Operate at a Predetermined Temperature in the Apparatus which is Protected

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Automatic Reclosing Circuit Breaker Co., Sixth St. & Indianola Ave., Columbus, Ohio
Circle T—see Trumbull Electric Mfg. Co.
Dunco—see Dunn, Inc., Struthers
Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on pages 72-73
General Electric Co., 1 River Rd., Schenectady, N. Y.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
Square D Co., 6060 Rivard St., Detroit, Mich.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

RELAYS, Thermal—
see **Relays,** Temperature

RELAYS, Traffic Control—
see **Relays,** Signal

RELAYS, Underload—
see **Relays,** Current Control

RELAYS, Undervoltage—
see **Relays,** Current Control

RELAYS, Vacuum—
see **Switches,** Pressure Operated

RELAYS, Voltage—
see **Relays,** Current Control

REMAGNETIZERS—
see **Chargers,** Magnet

REMOTE CONTROL SWITCHES—
see **Switches,** Magnetic

REMOVERS, Lamp Base
Tools for Removing the Bases of Broken Incandescent Lamps; for Lamp Removers—see Changers, Lamp

G. C. A. Mfg. Co., 65 Eagle St., Pittsfield, Mass.

REPLACERS, Lamp—
see **Changers,** Lamp

REPULSION INDUCTION MOTORS—
see **Motors, A. C. Repulsion**

REPULSION MOTORS—
see **Motors, A. C. Repulsion**

RESIDENCE FUSE PANELS—
see **Panelboards**

RESIDENTIAL LAMPS—
see **Lamps,** Portable Clamp
also **Lamps,** Residential Floor or Bridge
also **Lamps,** Residential Table or Desk

RESISTANCE ALLOYS—
see **Alloys,** Resistance

RESISTANCE BOXES—
see **Boxes,** Standard Resistance

RESISTANCE FURNACES—
see **Furnaces,** Electric Resistance

RESISTANCE, Wire—
see **Wire,** Asbestos Core Resistance
also **Wire,** Bare Resistance
also **Wire,** Covered Resistance

RESISTANCES, D. C. Bell Ringing
For A. C. Bell Ringing Transformers—see Transformers, Low Current and Voltage

Terminal Electric Co., 685 11th Ave., New York, N. Y.

Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y.

RESISTANCES, Field—
see **Resistors,** Unit

RESISTANCES, Standard—
see **Boxes,** Standard Resistance

RESISTORS, Battery Charging—
see **Resistors,** Unit

RESISTORS, Field—
see **Resistors,** Unit

RESISTORS, Unit
For Resistance Wire—see Wire, Bare Resistance—also Wire, Covered Resistance

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Aerovox Wireless Corp., 70 Washington St., Brooklyn, N. Y.

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.

C-H—see Cutler-Hammer

Chromalox—see Wiegand Co.

Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Dalton-Marsh Co., 90 Holten St., Danvers, Mass.

Di-El-Ite—see Wirt Co.

Dixon Crucible Co., Joseph, Monmouth St., Jersey City, N. J.

Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio

Euclid Electric & Mfg. Co., Chardon Rd., Euclid, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hardwick, Hindle, Inc., 215 Emmet St., Newark, N. J. "H H"

H H—see Hardwick, Hindle

International Resistance Co., 2006 Chestnut St., Philadelphia, Pa.

Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.

Ohm-Spun—see States Co.

Ohmite Mfg. Co., 624 N. Albany Ave., Chicago, Ill.

Post-Glover Electric Co., 221 W. Third St., Cincinnati, Ohio

Ribohm—see Ward Leonard Electric Co.

States Co., 17 New Park Ave., Hartford, Conn. "Ohm-Spun"

Union Electric Mfg. Co., 926 Juneau Ave., Milwaukee, Wis.

Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y. "Ribohm" "Vitrohm"

Vitrohm—see Ward Leonard Electric Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wiegand Co., Edwin L., 7515 Thomas Blvd., Pittsburgh, Pa. "Chromalox"

Wirt Co., 5227 Greene St., (Germantown) Philadelphia, Pa. "Di-El-Ite"

RESTS, Tool—
see **Grinders,** Commutator

RESURFACERS, Commutator—
see **Grinders,** Commutator
also **Stones,** Commutator Grinding

RETARDED EXTINGUISHMENT SWITCHES—
see **Switches,** Delayed Extinguishment

RETOUCHERS, Electric Photographic
Hand Tools for use in Retouching Photographic Prints and Negatives

Gilbert Supply Co., Independence, Iowa

REVERSE CURRENT BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

REVERSE PHASE BREAKERS—
see **Breakers,** Air Circuit
also **Breakers,** Circuit, Pneumatic Remote Control
also **Breakers,** Oil Circuit

REVERSE POWER RELAYS—
see **Relays,** Current Control

REVOLUTION COUNTERS—
see **Counters,** Revolution
also **Indicators,** Speed
also **Tachometers**

RHEOSTATS, Field—
see **Controllers,** Manual Motor

RHEOSTATS, Laboratory
Specially Designed Carbon Pile or Resistance Wire and Slider Type Rheostats

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Jagabi"

Central Scientific Co., 460 E. Ohio St., Chicago, Ill.

Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa. "Tesco"

General Electric Co., 1 River Rd., Schenectady, N. Y.

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Jagabi—see Biddle, James G.

National Electric Controller Co., 5315 Ravenswood Ave., Chicago, Ill.

Polymet Mfg. Co., 829 E. 134th St., New York, N. Y.

Queen—see Gray Instrument Co.

Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.

Tesco—see Eastern Specialty Co.

Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

RHEOSTATS, Meter Testing
Knife Switch Controlled Variable Rheostats for Meter Testing

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

RHEOSTATS, Plating—
see **Boards,** Plating Generator Control

RHEOSTATS, Speed Regulating—
see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

RIBBON, Resistance—
see **Wire,** Bare Resistance

RIDGE IRONS—
see **Brackets,** Metal Insulator

RINGS, Bridle
Galvanized or Insulated Steel Rings

American Expansion Bolt Co., 108 N. Jefferson St., Chicago, Ill.

Brooks & Sons, M. S., Chester, Conn.

Chicago Expansion Bolt Co., 125 S. Clinton St., Chicago, Ill.

Diamond Expansion Bolt Co., Garwood, N. J.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Judd Co., H. L., 87 Chambers St., New York, N. Y.

National Telephone Supply Co., 5100 Superior Ave., Cleveland, Ohio

Paine Co., 2951 Carroll Ave., Chicago, Ill.

RINGS, Cable
Formed Strips for use as Hangers to support Cable from Messenger Wire

Boston—see Chase-Shawmut Co.

Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Boston"

Copperweld Steel Co., Glassport, Pa.

Everstick Anchor Co., 128 Madison St., St. Louis, Mo.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

National Telephone Supply Co., 5100 Superior Ave., Cleveland, Ohio

RINGS, Canopy—
see **Fittings,** Fixture

RINGS, Collar—
see **Canopies,** Fixture

RINGS, Socket
Insulated Rings to thread into the Socket for Insulation or to give a Weatherproof Joint

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D

RISERS, Channel Wiring—
see **Boxes,** Meter Service

RIVET BURRS—
see **Washers,** Brass or Copper

RIVET HEATERS—
see **Heaters,** Rivet

RIVETS, Brass or Copper

For Iron or Steel Rivets—see Rivets, Iron or Steel

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.
Bridgeport Brass Co., E. Main St., Bridgeport, Conn.
Chicago Rivet & Machine Co., 1830 S. 54th St., (Cicero) Chicago, Ill.
Clendenin Bros., 108 South St., Baltimore, Md.
Cobb & Drew, Kingston St., Plymouth, Mass.
Grammes & Sons, L. F., Allentown, Pa.
Hassal, Inc., John, 402 Oakland St., Brooklyn, N. Y.
Manufacturer's Belt Hook Co., 1321 W. Congress St., Chicago, Ill.
New England Screw Co., 54 Farnsworth St., Boston, Mass.
Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.
Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.
Rome Brass & Copper Co., Bouck St., Rome, N. Y.
Stimpson Co., Edwin B., 70 Franklin Ave., Brooklyn, N. Y.

RIVETS, Copper—

see **Rivets,** Brass or Copper

RIVETS, Iron or Steel

For Brass or Copper Rivets—see Rivets, Brass or Copper

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.
Buffalo Bolt Co., East Ave. & Oliver St., North Tonawanda, N. Y.
Clark Bros. Bolt Co., Milldale, Conn.
Cobb & Drew, Kingston St., Plymouth, Mass.
Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio
Garland Mfg. Co., Grant Bldg., Pittsburgh, Pa.
Milton Mfg. Co., Milton, Pa.
National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio
New England Screw Co., 54 Farnsworth St., Boston, Mass.

RIVETS, Platinum—

see Platinum

RIVETS, Silver—

see Platinum

RIVETS, Steel—

see **Rivets,** Iron or Steel

RIVETS, Tungsten Alloy—

see **Platinum**

ROAD SWEEPING MAGNETS—

see **Magnets,** Lifting

ROASTERS, Electric Peanut

Complete Electrically Heated Ovens for Roasting Peanuts

Butter-Kist—see Holcomb & Hoke Mfg. Co.
Cleveland Corn Popper Co., 1293 E. Ninth St., Cleveland, Ohio
Cretors & Co., C., 620 W. 22d St., Chicago, Ill.
Holcomb & Hoke Mfg. Co., 1545 Van Buren St., Indianapolis, Ind. "Butter-Kist"

ROASTING OVENS—

see **Ovens,** Electric Household
also **Ranges,** Electric Household

ROASTING SPITS—

see **Spits,** Roasting

RODS, Aluminum—

see **Aluminum,** Sheet, Rod and Tube

RODS, Anchor and Guy

Galvanized Iron Eye Bolts; for Standard Anchor and Guy Bolts—see Bolts, Eye

Chance Co., Centralia, Mo.
Copperweld Steel Co., Glassport, Pa.
E-Z—see Oliver Iron & Steel Corp.
Everstick Anchor Co., 128 Madison St., St. Louis, Mo.
Guyeye—see Hubbard & Co.
Hebendahl Co., J. P., 232 Broadway, Elizabeth, N. J.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Guyeye"
Lanz Bolt Co., M., 2907 E. Carson St. S. S., Pittsburgh, Pa.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa., "E-Z"
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio

RODS, Brass—

see **Brass and Copper,** Sheet and Rod

RODS, Composition—

see **Insulation,** Synthetic

RODS, Copper—

see **Brass and Copper,** Sheet and Rod

RODS, Fibre—

see **Fibre,** Vulcanized

RODS, Ground

For use as Driven Grounds

Borden Electric Co., 480 Broad St., Newark, N. J.
Brady Electric & Mfg. Co., 42 Center St., New Britain, Conn.
Copperweld Steel Co.—see Hubbard & Co.
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Keystone"
Fargo Mfg. Co., 106 N. Clinton St., Poughkeepsie, N. Y.
G & W Electric Specialty Co., 7788 Dante Ave., Chicago, Ill.
Hallett Iron Works, Harvey, Ill.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. (Sole Distributors for Copperweld Steel Co., Glassport, Pa.)
Keystone—see Electric Service Supplies Co.
Lanz Bolt Co., M., 2907 E. Carson St. S. S., Pittsburgh, Pa.
Lesco—see Line Equipment Sales Co.
Line Equipment Sales Co., 1241 E. 45th St., Cleveland, Ohio "Lesco"
Line Material Co., South Milwaukee, Wis.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

RODS, Guy—

see **Rods,** Anchor and Guy

RODS, Laminated Phenolic—

see **Insulation,** Synthetic

RODS, Phenolic—

see **Insulation,** Synthetic

RODS, Platinum—

see **Platinum**

RODS, Resistance—

see **Wire,** Bare Resistance

RODS, Synthetic Insulation—

see **Insulation,** Synthetic

RODS, Threaded—

see **Wires,** Threaded

RODS, Tungsten Alloy—

see **Platinum**

RODS, Welding—

see **Wire and Rods,** Welding

RODS, Zinc—

see **Zinc,** Sheet and Rod

RODS and FITTINGS, Meter Sealing

Rods and Fittings for use in Applying Seals to Meters; for Meter Seals and Tools—see Seals, Meter

Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y.

ROLLER BEARING MOTORS—

see **Motors,** Ball or Roller Bearing

ROLLER BEARINGS—

see **Bearings,** Roller

ROOF VENTILATORS—

see **Ventilators,** Roof

ROOM HUMIDIFIERS, Portable Electric—

see **Humidifiers,** Portable Electric Room

ROPE PAPER—

see **Paper,** Fish and Rope

ROPE, Wire

For Steel Strand for Cable Messenger and Guy Wire—see Cable, Galvanized Steel

American Cable Co., Grand Central Terminal Bldg., New York, N. Y.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Broderick & Bascom Rope Co., 4203 N. Union Blvd., St. Louis, Mo.
Hazard Wire Rope Co., Wilkes-Barre, Pa.
Hercules—see Leschen & Sons Rope Co.
Leschen & Sons Rope Co., A., 5909 Kennerly Ave., St. Louis, Mo. "Hercules"
Macwhyte Co., 2935 14th Ave., Kenosha, Wis.
Page Steel & Wire Co., 929 Connecticut Ave., Bridgeport, Conn.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio
Williamsport Wire Rope Co., foot of Campbell St., Williamsport, Pa.

ROSETTES

Porcelain or Combination Rosettes

A & W—see Armstrong & White
Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

ROSETTES (Continued)

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 60

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Little Gem—see Pass & Seymour

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill. "Powerlets"

Paiste—see Arrow-Hart & Hegeman Electric Co.

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "Little Gem"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Peach Porcelain Co., East Liverpool, Ohio

Porcelain Products, Inc., Findlay, Ohio

Powerlets—see Multi Electrical Mfg. Co.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Trenle Porcelain Co., East Liverpool, Ohio

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Weber Electric Co.—see Sears, Henry D.

ROSETTES, Cleat—

see **Rosettes**

ROSETTES, Fixture—

see **Fittings**, Fixture
also **Rosettes**

ROSIN CORE SOLDER—

see **Solder**

ROTARY CONVERTERS—

see **Converters**, Synchronous

ROTARY FLUSH SWITCHES—

see **Switches**, Rotary Flush

ROTARY HACK SAWS—

see **Cutters**, Steel Panel and Box

ROTATING STANDARDS—

see **Meters**, Watt-Hour Testing

ROTOR BALANCING MACHINES—

see **Machines**, Rotor Balancing

ROVING, Jute—

see **Yarn**, Jute

RUBBER BELTING—

see **Belting**, Rubber

RUBBER COVERED CABLE—

see **Wire**, Rubber Covered
also **Wire**, Rubber Covered and Braided

RUBBER COVERED WIRE—

see **Wire**, Rubber Covered
also **Wire**, Rubber Covered and Braided

RUBBER GLOVES—

see **Gloves**, Rubber

RUBBER, Hard

Sheet, Rod and Tube; for Sponge and Soft Rubber—see Rubber, Sponge and Soft

Aetna Rubber Co., 815 E. 79th St., Cleveland, Ohio "Aetnalite"

Aetnalite—see Aetna Rubber Co.

American Hard Rubber Co., 11 Mercer St., New York, N. Y.

Forest City Rubber Co., 1276 Ontario St., Cleveland, Ohio

Goodrich Rubber Co., B. F., 500 S. Main St., Akron, Ohio

Hood Rubber Products Co., 98 Nichols Ave., Watertown, Mass.

New England Co., 232 Greenwich St. New York, N. Y.

Rub-Tex Products, Inc., 3500 E. 20th St., Indianapolis, Ind.

Stokes Rubber Co., Jos., Taylor & Webster Sts., Trenton, N. J.

Sun Rubber Co., Barberton, Ohio

Vulcanized Rubber Co., 251 Fourth Ave. New York, N. Y.

RUBBER INSULATORS—

see **Rubber**, Hard

RUBBER MATS—

see **Mats**, Flush Switch Plate

RUBBER PANELS—

see **Rubber**, Hard

RUBBER, Rod—

see **Rubber**, Hard

RUBBER SHEATHED CORD—

see **Cord**, Rubber Sheathed

RUBBER, Sheet—

see **Rubber**, Hard

RUBBER, Sleeves—

see **Sleeves**, Rubber

RUBBER, Soft—

see **Rubber**, Sponge

RUBBER, Sponge

Contract Companies having facilities for molding Sponge and Soft Rubber Shapes

Faultless Rubber Co., Ashland, Ohio

Featheredge Rubber Co., 340 W. Huron St., Chicago, Ill.

Industrial Rubber Corp., 131 Harris Ave., Long Island City, N. Y.

Majestic Packing & Rubber Corp., 287 Broadway, New York, N. Y.

Miller Rubber Co., 1200 S. High St., Akron, Ohio

Oak Hill Rubber Co., Oak Hill, Ohio

Phillips Rubber Co., 10 High St., Boston, Mass.

Sponge Rubber Products Co., 160 Housatonic Ave., Derby, Conn.

Sun Rubber Co., Barberton, Ohio

Toyco—see Toycraft Rubber Co.

Toycraft Rubber Co., Ashland, Ohio

RUBBER TAPE—

see **Tape**, Rubber

RUBBER, Tube—

see **Rubber**, Hard

SAFETY COILS—

see **Transformers**, Constant Current

SAFETY HANDLES, Portable Lamp—

see **Handles**, Portable Lamp Safety

SAFETY RAZORS—

see **Razors**, Electric Safety

SAFETY STRAPS—

see **Belts**, Lineman's

SAFETY SWITCHES—

see **Switches**, Safety

SALT BATHS—

see **Baths**, Electric Tempering

SALTS, Soldering—

see **Flux**, Soldering

SAMOVARS, Electric—

see **Kettles**, Tea

SANDERS, Electric Hand

Hand Surfacing Machines

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 137

Clarke Sanding Machine Co., 3815 Cortland St., Chicago, Ill.

Nedco—see Warren Mfg. Co.

Porter-Cable Machine Co., 1708 N. Salina St., Syracuse, N. Y. "Take-About"

Reid-Way Co., 752 N. 16th St., Cedar Rapids, Iowa. "Whirlwind"

Take-About—see Porter-Cable Machine Co.

U. S.—see United States Electrical Tool Co.

United States Electrical Tool Co., 2496 W. Sixth St., Cincinnati, Ohio "U. S."

Warren Mfg. Co., C., Natick, Mass. "Nedco"

Whirlwind—see Reid-Way Co.

SAPPHIRE BEARINGS—

see **Bearings**, Jewel

SAWS, Bench—

see **Saws**, Electric Portable Bench

SAWS, Circular Commutator—

see **Saws**, Commutator Slotting

SAWS, Commutator Slotting

Saws for use with Commutator Slotters and Undercutters; for Commutator Files—see Files, Commutator Slotting

Cowles Tool Co., 2086 W. 110th St., Cleveland, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hullhorst Micro Tool Co., 3242 Monroe St., Toledo, Ohio

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

SAWS, Electric Hand

Motor Driven Hand Wood Saws; for Bench Saws—see Saws, Electric Portable Bench

Alta—see Wappat, Inc.

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 136

Casey Mfg. Co., 280 Main St., Oshkosh, Wis.

Crowe—see Stanley Electric Tool Co.

Kwick Saw—see Porter-Cable Machine Co.

Lee Mfg. Co., 132 13th St., Milwaukee, Wis.

Portable Power Tool Corp., Warsaw, Ind.

Porter-Cable Machine Co., 1708 N. Salina St., Syracuse, N. Y. "Kwick Saw"

Skilsaw, Inc., 3814 Ravenswood Ave., Chicago, Ill.

Speedway Mfg. Co., 1834 S. 52d Ave., Cicero, Ill.

Stanley Electric Tool Co., New Britain, Conn. "Crowe"

Syntron Co., 400 N. Lexington Ave., Pittsburgh, Pa.

Wallace & Co., J. D., 134 S. California Ave., Chicago, Ill.

Wappat, Inc., 7526 Meade St., Pittsburgh, Pa. "Alta"

Wodack Electric Tool Corp., 4627 W. Huron St., Chicago, Ill.

SAWS, Electric Portable Bench

Portable Table Mounted Motor Driven Saws; for Hand Saws—see Saws, Electric Hand

De Walt Products Corp., 531 New Holland Ave., Leola, Pa.

Ephrata Mfg. Co., Ephrata, Pa.

Gallmeyer & Livingston Co., Grand Rapids, Mich.

Heston & Anderson, Fairfield, Iowa

Michigan Electric & Mfg. Co., Lake Linden, Mich.

Oliver Machinery Co., Grand Rapids, Mich.

Tannewitz Works, 303 Front Ave., N.W., Grand Rapids, Mich.

Wallace & Co., J. D., 134 S. California Ave., Chicago, Ill.

Winterhoff Tool & Machine Co., 112 Elkhart Ave., Elkhart, Ind.

SAWS, Hand—

see **Saws,** Electric Hand

SAWS, Hole—

see **Cutters,** Steel Panel and Box

SAWS, Panel—

see **Cutters,** Steel Panel and Box

SAWS, Pruning—

see **Tools,** Pruning

SAWS, Rotary Hack—

see **Cutters,** Steel Panel and Box

SCRAPERS, Insulation Wire—

see **Tools,** Wire Stripping

SCRAPERS, Slot—

see **Files,** Commutator Slotting

SCREENS, Color—

see **Discs,** Color

SCREW MACHINE PRODUCTS, Automatic

Small Screw Machine Parts made to Order

Alemite Die Casting & Mfg. Co., Woodstock, Ill.

Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.

American Die & Tool Co., Second & Buttonwood Sts., Reading, Pa.

American Hardware Corp., New Britain, Conn.

American Metal Works, 4861 Stenton Ave., Philadelphia, Pa.

American Specialty Co., 165 Holland Ave., Bridgeport, Conn.

Ansonia Mfg. Co., Ansonia, Conn.

Arrow Automatic Products Corp., 29 Vestry St., New York, N. Y.

Atlantic Mfg. Co., 20 New Haven Ave., Milford, Conn.

Autoscrew Co., 355 W. Broadway, New York, N. Y.

Bailey Mfg. Co., Union City, Ind.

Barnes Co., Wallace, 30 Main St., Bristol, Conn.
Cataloged on page 162

Bell Co., David, 1557 Fillmore Ave., Buffalo, N. Y.

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.

Bowen Products Corp., Auburn, N. Y.

Bridgeport Brass Co., E. Main St., Bridgeport, Conn.

Brown-McLaren Mfg. Co., 5853 W. Fort St., Detroit, Mich.

Cap Screw & Nut Co., 290 Hudson St., New York, N. Y.

Carey & Son, F. W., Warren, Mass.

Chapman Machine Co., Terryville, Conn.

Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Circle T—see Trumbull Electric Mfg. Co.

Clark Metal Products, Inc., 490 Hancock Ave., Bridgeport, Conn.

Cleverly Electrical Works, 17 N. Seventh St., Philadelphia, Pa.

Commonwealth Brass Corp., 5781 Commonwealth Ave., Detroit, Mich.

Davis & Hemphill, Elkridge, Md.

Dearborn, J. W., 70 S. Cliff St., Ansonia, Conn.

Doran & Sons, James C., 150 Chestnut St., Providence, R. I.

Eclipse Machine Co., 545 N. Arlington Ave., East Orange, N. J.

Electric Novelty Works, 965 Howard St., San Francisco, Cal.

Eureka Tool & Machine Co., 42 Walnut St., Newark, N. J.

Everitt Co., 264 Franklin St., Boston, Mass.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Fischer Spring Co., Chas., 240 Kent Ave., Brooklyn, N. Y.

General Mfg. Co., Waterbury, Conn.

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Hartford Metal Products Co., 112 Allyn St., Hartford, Conn.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Hubbs, C. A., 50 Church St., New York, N. Y.

Hyro Mfg. Co., 200 Varick St., New York, N. Y.

Linden & Co., 891 Broad St., Providence, R. I.

Livermore, H. F., 10 Linden St., Allston, Mass.

Lorentzen, H. K., 155 Leonard St., New York, N. Y.

Lovejoy Chaplet Co., River St. & B. & M. R.R., Hoosick Falls, N. Y.

Mattatuck Mfg. Co., E. Main St., Waterbury, Conn.

Meisel Press Mfg. Co., 944 Dorchester Ave., Boston, Mass.

Merit Machine Mfg. Co., 465 Greenwich St., New York, N. Y.

Motor Specialties Corp., foot of Mt. Elliott Ave., Detroit, Mich.

Mueller Brass Co., Port Huron, Mich.

Namco—see National Acme Co.

National Acme Co., E. 131st St. at Coit Rd., Cleveland, Ohio. "Namco"

National Sewing Machine Co., Belvidere, Ill.

New Britain Machine Co., 197 Chestnut St., New Britain, Conn.

New England Screw Co., 54 Farnsworth St., Boston, Mass.

Newark Screw Products Co., 119 Sussex Ave., Newark, N. J.

Olson Brothers Co., Camp St., Plainville, Conn.

Olson Mfg. Co., 56 Commercial St., Worcester, Mass.

Ontario Machine Screw Co., 3415 Rorer St., Philadelphia, Pa.

Oregon Brass Works, 73 N. Second St., Portland, Ore.

Peck Spring Co., Plainville, Conn.
Cataloged on page 166

Perry-Fay Co., Elyria, Ohio

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.

Poorman, J. E., 1825 Bristol St., Philadelphia, Pa.

Potter Tool & Machine Works, 79 E. 130th St., New York, N. Y.

Precision Machine Co., 2530 Cornell St., Indianapolis, Ind.

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn.
Cataloged on page 168

Quadriga Mfg. Co., 213 W. Grand Ave., Chicago, Ill.

Reliable Parts Mfg. Co., Magyer St. & Big Four R.R., Wellington, Ohio

Royersford Screw Machine Products Co., 430 Chestnut St., Royersford, Pa.

Schaefer Brass & Mfg. Co., 813 Clark Ave., St. Louis, Mo.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169

Screw Machine Products Corp., 1012 Eddy St., Providence, R. I.

Screw Machine Specialty Co., 7723 Susquehanna St., Pittsburgh, Pa.

Shimer & Sons, Samuel J., Milton, Pa.

Steele & Johnson Mfg. Co., 779 S. Main St., Waterbury, Conn.

Steinen & Co., Wm., 293 Washington St., Newark, N. J.

Stuckeman Bros., 204 Warrington Ave., Pittsburgh, Pa.

Thomaston Mfg. Co., Thomaston, Conn.

Titan Metal Mfg. Co., Bellefonte, Pa.

Torrington Mfg. Co., 44 Franklin St., Torrington, Conn.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

U. S. Tool Co., Ampere, N. J.

Union Screw & Mfg. Co., 207 S. Main St., Pittsburgh, Pa.

Up-To-Date Machine Works, 2911 S. Wabash Ave., Chicago, Ill.

Viking Tool & Machine Co., 751 65th St., Brooklyn, N. Y.

Waldon Tool & Metal Mfg. Co., 7 Oxford St., New Haven, Conn.

Wennstrom's Sons, John, 51 Wayne Ave., Suffern, N. Y.

Western Automatic Machine Screw Co., Elyria, Ohio

Western Screw-Products Co., Main & St. George Sts., St. Louis, Mo.

Wheeler & Son, Frank, Meriden, Conn.

Wicaco Screw & Machine Works, Stenton Ave. & Louden St., Philadelphia, Pa.

Wright Machine Co., 3 Grand St. Court, Worcester, Mass.

SCREWDRIVERS, Electric Bench Type

Bench Type Screwdriving Machines; for Portable Electric Screwdrivers—see Drills, Electric Portable

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 135

Ray Machine Co., 5403 W. Lake St., Chicago, Ill.

Strand & Co., N. A., 5009 N. Lincoln St., Chicago, Ill.

Vim Electric Tool Co., 149 Broadway, New York, N. Y.

SCREWDRIVERS, Non-Electric

American Saw & Mfg. Co., 67 Boylston St., Springfield, Mass. "Lenox"

Billings & Spencer Co., Laurel & Park Sts., Hartford, Conn.

Bridgeport Hardware Mfg. Corp., Iranistan Ave., Bridgeport, Conn.

Bro-Mac-O—see Brown, McPherson & Co.

Brown, McPherson & Co., Wallingford, Conn. "Bro-Mac-O"

Car-Van Steel Products Co., 1224 Fifth St., S. W., Canton, Ohio

Champion—see Union Hardware Co.

Chapin-Stephens Co., Pine Meadow, Conn.

Chapman Machine Co., Terryville, Conn.

Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"

Cronk & Carrier Mfg. Co., Montour Falls, N. Y.

Disston & Sons, Henry, (Tacony) Philadelphia, Pa.

Fairmount Tool & Forging Co., 10611 Quincy Ave., Cleveland, Ohio

Goodell-Pratt Co., Wells St., Greenfield, Mass.

Harding Mfg. Co., Mansfield, Mass.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Kilborn & Bishop Co., 196 Chapel St., New Haven, Conn.

Lenox—see American Saw & Mfg. Co.

Miller Rubber Co., 1200 S. High St., Akron, Ohio. "Ra-Driver"

Millers Falls Co., Millers Falls, Mass.

North Bros. Mfg. Co., cor. American St. & Lehigh Ave., Philadelphia, Pa. "Yankee"

Pearsall Mfg. Co., J. R., 23 S. Water St. Rochester, N. Y. "Sure Grip"

Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"

Pexto—see Peck, Stow & Wilcox Co.

Ra-Driver—see Miller Rubber Co.

Red Devil—see Crescent Tool Co.

Schauer Machine Co., 907 Broadway, Cincinnati, Ohio

Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.

Sure Grip—see Pearsall Mfg. Co.

Swan Co., James, 279 Bank St., Seymour, Conn.

Union Hardware Co., 535 Migeon Ave., Torrington, Conn. "Champion"

Village Blacksmith Folks, Watertown, Wis.

Washburn Co., 6126 S. La Salle St., Chicago, Ill.

Yankee—see North Bros. Mfg. Co.

SCREWEYES, Insulated

Screweyes which have Insulated Eyes

Brooks & Sons, M. S., Chester, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 61

Diamond Expansion Bolt Co., Garwood, N. J.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa. "Peirce"

Judd Co., H. L., 87 Chambers St., New York, N. Y.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Parker Metal Goods Co., 18 Grafton St., Worcester, Mass.

Peirce—see Hubbard & Co.

Porcelain Products, Inc., Findlay, Ohio

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Stern-Brown, 257 W. 17th St., New York, N. Y.

Trenle Porcelain Co., East Liverpool, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SCREWS, Brass Machine

For Brass Thumb and Wing Screws—see Screws, Brass Thumb and Wing; for Brass Wood Screws—see Screws, Brass Wood

American Hardware Corp., New Britain, Conn.

American Screw Co., 21 Stevens St., Providence, R. I.

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.

Bridgeport Screw Co., Williston St. & Union Ave.. Bridgeport, Conn.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clark Bros. Bolt Co., Milldale, Conn.

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Elco Tool & Screw Corp., 1818 Broadway, Rockford, Ill.

General Mfg. Co., Waterbury, Conn.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Holtite—see Continental Wood Screw Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

New England Screw Co., 54 Farnsworth St., Boston, Mass.

Pawtucket Screw Co., Pawtucket, R. I.

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"
Cataloged on page 168

Promco—see Progressive Mfg. Co.

Reading Screw Co., Norristown, Pa.

Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

SCREWS, Brass Thumb and Wing

For Brass Wood Screws—see Screws, Brass Wood; for Brass Machine Screws—see Screws, Brass Machine

Everitt Co., 264 Franklin St., Boston, Mass.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"

Promco—see Progressive Mfg. Co.

SCREWS, Brass Wood

For Brass Machine Screws—see Screws, Brass Machine; for Brass Thumb and Wing Screws—see Screws, Brass Thumb and Wing

American Hardware Corp., New Britain, Conn.

American Screw Co., 21 Stevens St., Providence, R. I.

Bridgeport Screw Co., Williston St. & Union Ave., Bridgeport, Conn.

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Elco Tool & Screw Corp., 1818 Broadway, Rockford, Ill.

Holtite—see Continental Wood Screw Co.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Reading Screw Co., Norristown, Pa.

Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

SCREWS, Cap and Set

For Iron or Steel Machine Screws—see Screws, Iron or Steel Machine

Allen Mfg. Co., 129 Sheldon St., Hartford, Conn.

American Hardware Corp., New Britain, Conn.

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clark Bros. Bolt Co., Milldale, Conn.

Cleveland Wrought Products Co., W. 60th St. at Denison Ave., Cleveland, Ohio

Everitt Co., 264 Franklin St., Boston, Mass.

Foster Bolt & Nut Mfg. Co., 3556 E. 72d St.. Cleveland, Ohio

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.
Cataloged on page 167

Hartford Machine Screw Co., Capitol Ave., Hartford, Conn.

Namco—see National Acme Co.

National Acme Co., E. 131st St. at Coit Rd., Cleveland, Ohio. "Namco"

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.

Reed & Prince Mfg. Co., Duncan Ave., Worcester, Mass.

Reliable Cap & Set Screw Co., 29 S. Clinton St., Chicago, Ill.

Rockford Bolt Co., 230 Mill St., Rockford, Ill.

Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

Union Screw & Mfg. Co., 207 S. Main St., Pittsburgh, Pa.

Western Automatic Machine Screw Co., Elyria, Ohio

Western Screw-Products Co., Main & St. George Sts., St. Louis, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SCREWS, Iron or Steel Machine

For Iron Thumb and Wing Screws—see Screws, Iron Thumb and Wing; for Cap and Set Screws—see Screws, Cap and Set

American Hardware Corp., New Britain, Conn.

American Screw Co., 21 Stevens St., Providence, R. I.

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

Clark Bros. Bolt Co., Milldale, Conn.

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

General Mfg. Co., Waterbury, Conn.

Elco Tool & Screw Corp., 1818 Broadway, Rockford, Ill.

Holtite—see Continental Wood Screw Co.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

New England Screw Co., 54 Farnsworth St., Boston, Mass.

Progressive Mfg. Co., 52 Norwood St., Torrington, Conn. "Promco"
Cataloged on page 168

Promco—see Progressive Mfg. Co.

Reading Screw Co., Norristown, Pa.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

Western Automatic Machine Screw Co., Elyria, Ohio

SCREWS, Iron Thumb and Wing

For Iron Wood Screws—see Screws, Iron Wood; for Iron Machine Screws—see Screws, Iron or Steel Machine

American Hardware Corp., New Britain, Conn.

Chicago Screw Co., 1026 S. Homan Ave., Chicago, Ill.

SCREWS, Iron Wood

For Lag Screws—see Screws, Lag

American Hardware Corp., New Britain, Conn.

American Screw Co., 21 Stevens St., Providence, R. I.

Bridgeport Screw Co., Williston St. & Union Ave., Bridgeport, Conn.

Continental Wood Screw Co., Mt. Pleasant St., New Bedford, Mass. "Holtite"

Eagle Lock Co., 26 Warren St., New York, N. Y.

Elco Tool & Screw Corp., 1818 Broadway, Rockford, Ill.

Holtite—see Continental Wood Screw Co.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

Reading Screw Co., Norristown, Pa.

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

SCREWS, Knob—

see **Screweyes,** Insulated

SCREWS, Lag

For Iron Wood Screws—see Screws, Iron Wood

Atlas Bolt & Screw Co., 1144 Ivanhoe Rd., Cleveland, Ohio

Bessemer Galvanizing Works, Phoenix Bldg., Birmingham, Ala.

Clark Bros. Bolt Co., Milldale, Conn.

Everitt Co., 264 Franklin St., Boston, Mass.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Milton Mfg. Co., Milton, Pa.

National Screw & Mfg. Co., 2440 E. 75th St., Cleveland, Ohio

O-B—see Ohio Brass Co.

Ohio Brass Co., Mansfield, Ohio. "O-B"

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

Russell, Burdsall & Ward Bolt & Nut Co., Midland Ave., Port Chester, N. Y.

Seyler Mfg. Co., Sharpsburg, P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Turner-Warner Screw Co., 13th & Jasper Sts., North Kansas City, Mo.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SCREWS, Luminous—

see **Pendants,** Luminous

SCREWS, Machine—

see **Screws,** Brass Machine
also **Screws,** Iron or Steel Machine

SCREWS, Piano—

see **Screws,** Iron Thumb and Wing

SCREWS, Set—

see **Screws,** Cap and Set

SCREWS, Thumb—

see **Screws,** Brass Thumb and Wing
also **Screws,** Iron Thumb and Wing

SCREWS, Wing—

see **Screws,** Brass Thumb and Wing
also **Screws,** Iron Thumb and Wing

SCREWS, Wood—

see **Screws,** Brass Wood
also **Screws,** Iron Wood

SCRUBBERS, Floor—

see **Machines,** Floor Finishing

SEALING COMPOUNDS—

see **Compounds,** Battery Sealing

SEALING RODS, Meter—

see **Rods and Fittings,** Meter Sealing

SEALS, Conduit

Discs for Sealing the Ends of Conduits; for Wood Plugs for Sealing Conduits—see Plugs, Conduit Sealing

Barnard & Co., B. S., 31 Union Sq., New York, N. Y.

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Green, R. H., 1201 24th St., Oakland, Cal.

Misener Mfg. Co., 326 E. Washington St., Syracuse, N. Y.
Cataloged on page **140**

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Thomas & Betts Co., 15 Park Pl., New York, N. Y.

SEALS, Knockout—

see **Blanks,** Knockout

SEALS, Meter

For use in Sealing Demand and Watt-hour Meters; for Rods and Fittings for use with Meter Seals—see Rods and Fittings, Meter Sealing

American Casting & Mfg. Corp., 80 Main St., Brooklyn, N. Y. "Anchor"

Anchor—see American Casting & Mfg. Corp.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

International Seal & Knot Protector Co., 111 Spring St., New York, N. Y.

Metallic Seal Co., 200 Coit St., Irvington, N. J.

Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y.

Patrick Moise-Klinkner Co., 369 Market St., San Francisco, Cal.

United Seal Co., 448 S. Pearl St., Columbus, Ohio

Woodman Mfg. & Supply Co., R., 71 Oliver St., Boston, Mass.

SEAM WELDERS—

see **Welders,** Arc

SEAMLESS CONNECTORS—

see **Sleeves,** Wire Splicing

SEARCHLIGHTS—

see **Projectors,** Flood Lighting

SECONDARY CLOCK MOVEMENTS—

see **Movements,** Secondary Clock

SECONDARY CLOCKS—

see **Clocks,** Electric Master and Secondary

SEGMENT PLATES—

see **Mica**

SELENIUM CELLS—

see **Cells,** Photo-Electric

SELF CONTAINED CLOCKS—

see **Clocks,** Electric Self Contained

SEPARATORS, Rubber Storage Battery—

see **Rubber,** Hard

SEPARATORS, Wood Storage Battery

Wood Sheets for Separating Storage Battery Plates

Arrow Mill Co., 4420 W. 26th St., Chicago, Ill.

Baltimore Battery Separator Co., 216 Cold Spring Lane, Baltimore, Md.

Darling Co., Len H., Addison, Mich.

Darling-Singer Lumber Co., American Bank Bldg., Portland, Ore.

Ermet Products Co., 2050 Darwin St., Indianapolis, Ind.

Estes & Sons, E. B., 25 Vanderbilt Ave., New York, N. Y.

Indiana Separator Co., 904 Dorman St., Indianapolis, Ind.

Indianapolis Mfg. Co., 1030 E. Pratt St., Indianapolis, Ind.

Smith Wood-Products, Inc., 1900 Armour Rd., North Kansas City, Mo.

Stewart Mfg. Co., Wm. E., 14th & Elm Sts., Flint, Mich.

United Battery Separator Corp., 1834 Broadway, New York, N. Y.

Wick Lumber Co., Robert, 556 W. 52d St., New York, N. Y.

SERIES MOTORS—

see **Motors,** D. C. Series

SERIES MULTIPLE SNAP SWITCHES—

see **Switches,** Series Multiple Snap

SERVICE ENTRANCE SWITCHES—

see **Boxes,** Meter Service
also **Breakers,** Air Circuit
also **Breakers,** Oil Circuit
also **Switches,** Fused Entrance

SERVICE FITTINGS—

see **Fittings,** Threaded Conduit

SERVICE METERS—

see **Meters,** Watt-Hour Service

SERVICE PANELS—

see **Panelboards**

SERVICE SWITCH BOXES—

see **Boxes,** Cutout and Switch

SERVICE SWITCHES—

see **Boxes,** Meter Service

SET SCREW CONNECTORS—

see **Connectors,** Solderless Uninsulatd

SET SCREWS—

see **Screws,** Cap and Set

SETS, Christmas Tree Lighting

Miniature Lamp Sockets wired up for use in Lighting Christmas Trees; for Christmas Tree Stands—see Stands, Illuminated Christmas Tree

Arco Mfg. Co., 97 Greene St., New York, N. Y.
Darrow Mfg. Co., 38 E. 20th St., New York, N. Y.
Deal Electric Co., 453 Broome St., New York, N. Y.
Gacor—see General Appliance Corp.
General Appliance Corp., 120 Eighth St., San Francisco, Cal. "Gacor"
Noma Electric Corp., 344 Hudson St., New York, N. Y.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Propp Co., M., 524 Broadway, New York, N. Y.
Wayne Lamp Co., Anthony, Broadway & Savilla Ave., Fort Wayne, Ind.
Zeiger Light Products Co., 923 Fifth Ave., McKeesport, Pa.

SETS, Electrical Testing

Complete Assembled Apparatus for use in Electrical Testing; for Insulation Testers—see Sets, Insulation Testing

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Megger"
Borden Electric Co., 480 Broad St., Newark, N. J. "Groundometer"
Colpin Corp., 6110 S. Main St., Los Angeles, Cal.
Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa.
Electric Specialty Mfg. Co., 610 Fourth Ave., Cedar Rapids, Iowa
Fidelity Electric Co., 332 N. Arch St., Lancaster, Pa.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"
Groundometer—see Borden Electric Co.
Herald Electric Co., 29 East End Ave., New Lork, N. Y.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio
Megger—see Biddle, James G.
Queen—see Gray Instrument Co.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.
Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.
Western Electro-Mechanical Co., 131 Broadway, Oakland, Cal.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SETS, Insulation Testing

Portable Instruments for Testing Resistance of Insulation, etc.—see also Ohmmeters

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Meg" "Megger"
Cory & Son, Chas., 183 Varick St., New York, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Lush—see Rawson Electrical Instrument Co.
Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio
Meg—see Biddle, James G.
Megger—see Biddle, James G.
Queen—see Gray Instrument Co.
Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass. "Lush"
Rubicon Co., 29 N. Sixth St., Philadelphia, Pa.

SETS, Short Circuit Locating—

see **Detectors**, Voltage

SEWING MACHINE LAMPS—

see **Lamps**, Sewing Machine

SEWING MACHINE MOTORS—

see **Motors**, Sewing Machine

SEWING MACHINES—

see **Machines**, Electric Household Sewing

SHADE HOLDERS—

see **Holders**, Shade

SHADES, Fabric

Silk, Cretonne, Linen or other Fabrics on Wire Frames

Adelphi Lamp Shade Co., 242 Fifth Ave., New York, N. Y.
Adjustable Fixture Co., 62 Mason St., Milwaukee, Wis.
Argonne Lamp Shade Co., 49 W. 23d St., New York, N. Y.
Audrey Art Shade Studios, 105 Thatford Ave., Brooklyn, N. Y.
Caldwell & Co., E. F., 36 W. 15th St., New York, N. Y.
Dorothy Lamp Shades, 30 W. 23d St., New York, N. Y.
Hamilton-Ross Factories, 738 Tilden St., Chicago, Ill.
Henson, M. Elizabeth, 230 E. Ohio St., Chicago, Ill.
Khouri & Bro., A. N., 115 E. 23d St., New York, N. Y.
Ludlow & Minor, 246 W. 23d St., New York, N. Y.
Maibrunn Co., 46 E. 25th St., New York, N. Y.
Miller Co., 101 Center St., Meriden, Conn.
Noe & Sons, William R., 43 E. Tenth St., New York, N. Y.
Northwestern Art Shade Co., 150 N. Wacker Dr., Chicago, Ill. "Nowasco"
Nowasco—see Northwestern Art Shade Co.
Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.
Rembrandt Lamp Corp., 259 E. Erie St., Chicago, Ill.
Sun Glo Studios, 49 W. 23d St., New York, N. Y.
Superior Lamp Shade Manufacturers, 70 Madison Ave., New York, N. Y.
Utility Shade Co., Tenafly, N. J.

SHADES, Glass—

see **Shades**, Metal and Glass

SHADES, Metal and Glass

Metal, Glass or Composite Metal and Glass Shades and Reflectors

A-A Electric Mfg. Co., 305 Center St., Bridgeport, Conn.
Abolite Reflector Co., West Lafayette, Ohio
Arnessen Electric Co., 13 Water St., New York, N. Y.
Bart Reflector Co., 375 Verona Ave., Newark, N. J.
Ben-ox—see Benjamin Electric Mfg. Co.
Benjamin Electric Mfg. Co., Des Plaines, Ill. "Ben-ox" "Sturdox"
Cataloged on pages **106-109**
Chesler & Sons Co., J., 159 Harrison Pl., Brooklyn, N. Y.
Consolidated Lamp & Glass Co., Coraopolis, Pa.
Curtis Lighting, Inc., 1119 W. Jackson Blvd., Chicago, Ill. "X-Ray"
Day-Brite Reflector Co., 3825 Laclede Ave., St. Louis, Mo.
Dunlap Co., John, Carnegie, Pa.
Durex—see Wheeler Reflector Co.
Elkay Reflector Corp., 100 Grand Ave., Brooklyn, N. Y.
Ender Mfg. Corp., 213 Grand St., New York, N. Y.
Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.
Frink Corp., 369 Lexington Ave., New York, N. Y. "Silverlite"
Gill Glass & Fixture Co., Amber & Venango Sts., Philadelphia, Pa.
Gillinder & Sons, Devereaux St. & State Rd., Philadelphia, Pa.
Goodrich Electric Co., 2905 N. Oakley Ave., Chicago, Ill.
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Wholesalers)
Cataloged on page **87**
Henrich Reflector Co., 520 W. 41st St., New York, N. Y.
Holophane Co., 342 Madison Ave., New York, N. Y.
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Inglo—see Inland Glass Works
Inland Glass Works, 6101 W. 65th St., Chicago, Ill. "Inglo"
Isolux—see Wheeler Reflector Co.
Ivanhoe Division of Miller Co., 5716 Euclid Ave., Cleveland, Ohio
Jackson Electrical Co., 900 W. Van Buren St., Chicago, Ill.
Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page **119**
Kopp Glass, Inc., 2206 Palmer St., Swissvale, Pa.
Lang's Daylight, Inc., 1833 E. 55th St., Cleveland, Ohio
Line Material Co., South Milwaukee, Wis.
Macbeth-Evans Glass Co., Charleroi, Pa.
Marbelite Art Products Co., 2652 W. Lake St., Chicago, Ill.
National Diffused Light Mfg. Co., 160 N. Wells St., Chicago, Ill.
Nevins Reflector Co., Monaca, Pa.
North Light Corp., 32 W. 15th St., New York, N. Y.
Oamco—see Overbagh & Ayres Mfg. Co.
Overbagh & Ayres Mfg. Co., 411 S. Clinton St., Chicago, Ill. "Oamco"
Permaflector—see Pittsburgh Reflector Co.
Phoenix Glass Co., Monaca, Pa.
Pittsburgh Cut Glass Co., Monaca, Pa.
Pittsburgh Reflector Co., 304 Ross St., Pittsburgh, Pa. "Permaflector"
Cataloged on pages **112-113**
Quad—see Quadrangle Mfg. Co.
Quadrangle Mfg. Co., 32 S. Peoria St., Chicago, Ill. "Quad"
R. & S.—see Russell & Stoll Co.
Reco—see Reynolds Electric Co.
Reflector & Illuminating Co., 1417 W. Jackson Blvd., Chicago, Ill. "Sterling"
Cataloged on pages **114-115**
Reynolds Electric Co., 2644 W. Congress St., Chicago, Ill. "Reco"
Cataloged on page **120**
Russell & Stoll Co., 53 Rose St., New York, N. Y. "R. & S."
Silverlite—see Frink Corp.
Sterling—see Reflector & Illuminating Co.
Sturdox—see Benjamin Electric Mfg. Co.
Sun-Ray Lighting Products, Inc., 119 Lafayette St., New York, N. Y.
Vapolux—see Wheeler Reflector Co.
Waterbury Metal Wares Co., Jackson St., Waterbury, Conn.
Weiss & Biheller, 584 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page **101**
Wheeler Reflector Co., 275 Congress St., Boston, Mass. "Durex" "Isolux" "Vapolux"
X-Ray—see Curtis Lighting

SHADES, Parchment
Parchment, Paper and Celluloid Shades, Decorated and Plain

Adjustable Fixture Co., 62 Mason St., Milwaukee, Wis.
Audrey Art Shade Studios, 105 Thatford Ave., Brooklyn, N. Y.
Burke Studios, 3903 Cottage Grove Ave., Chicago, Ill.
Caldwell & Co., E. F., 36 W. 15th St., New York, N. Y.
Chicago Parchment Shade Co., 54 W. Lake St., Chicago, Ill.
Foss Studios, Leonard R., 1340 E. 12th St., Oakland, Cal.
Henson, M. Elizabeth, 230 E. Ohio St., Chicago, Ill.
Khouri & Bro., A. N., 115 E. 23d St., New York, N. Y.
Noe & Sons, William R., 43 E. Tenth St., New York, N. Y.
Red Spot—see Wakefield Brass Co.
Rembrandt Lamp Corp., 259 E. Erie St., Chicago, Ill.
Rosita Studios, 10 W. 28th St., New York, N. Y.
Sanderson Art Co., 540 Van Buren St., Milwaukee, Wis.
Tapestrelle Corp., 44 E. 29th St., New York, N. Y.
Utility Shade Co., Tenafly, N. J.
Wakefield Brass Co., F. W., Vermilion, Ohio. "Red Spot"

SHAFT COUPLINGS—
see **Couplings,** Flexible Shaft

SHAFTS, Flexible
Flexible Shafts equipped with Terminal Couplings; for Flexible Control Cable—see Cable, Flexible Control

Binghamton Flexible Shaft Co., 239 Water St., Binghamton, N. Y.
Breeze Metal Hose & Mfg. Co., 22 S. Sixth St., Newark, N. J. "FleXmet"
Coates Clipper & Mfg. Co., 237 Chandler St., Worcester, Mass. "Flexishaft"
Elgar—see Linick, Green & Reed
FleXmet—see Breeze Metal Hose & Mfg. Co.
Flexishaft—see Coates Clipper & Mfg. Co.
Haskins Co., R. G., 4636 W. Fulton St., Chicago, Ill.
Linick, Green & Reed, 10 S. Wabash Ave., Chicago, Ill. "Elgar"
Stow Mfg. Co., 445 State St., Binghamton, N. Y.
Strand & Co., N. A., 5009 N. Lincoln St., Chicago, Ill.
White Dental Mfg. Co., S. S., 152 W. 42d St., New York, N. Y.

SHAPES, WIRE—
see **Forms,** Wire

SHAVING MIRRORS—
see **Mirrors,** Illuminated Shaving

SHEARS, Motor Driven Metal
Motor Operated Tools for Cutting Sheet Metal

Stanley Electric Tool Co., New Britain, Conn. "Unishear"
Unishear—see Stanley Electric Tool Co.

SHEET ALUMINUM—
see **Aluminum,** Sheet, Rod and Tube

SHEET ASBESTOS—
see **Asbestos,** Sheet

SHEET BRASS—
see **Brass and Copper,** Sheet and Rod

SHEET COPPER —
see **Brass and Copper,** Sheet and Rod

SHEET FELT—
see **Felt,** Cutters of

SHEET FIBRE—
see **Fibre,** Vulcanized

SHEET MICA—
see **Mica**

SHEET ZINC—
see **Zinc,** Sheet and Rod

SHEETS, Composition—
see **Insulation,** Synthetic

SHEETS, Electrical—
see **Steel,** Silicon Sheet

SHEETS, Laminated Phenolic—
see **Insulation,** Synthetic

SHEETS, Phenolic—
see **Insulation,** Synthetic

SHEETS, Resistance—
see **Wire,** Bare Resistance

SHEETS, Synthetic Insulation—
see **Insulation,** Synthetic

SHELLAC

General Electric Co., Bridgeport, Conn.
Twin City Shellac Co., 340 Flushing Ave., Brooklyn, N. Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SHELLS, Candle
Shells formed to imitate Candles for use with Candle Stem Sockets; for Complete Candle Sockets—see Sockets, Candle

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.
Brandywine Fibre Products Co., 14th & Walnut Sts., Wilmington, Del.
Cleveland Container Co., 10610 Berea Rd., Cleveland, Ohio
Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.
Fibro Products Co., 47 Prospect St., New Bedford, Mass.
Imperial Porcelain Works, Mulberry St. & New York Ave., Trenton, N. J.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

SHELLS, Expansion—
see **Bolts,** Expansion

SHELLS, Socket—
see **Canopies,** Fixture

SHERARDIZING—
see **Galvanizing and Sherardizing**

SHIELDS, Expansion—
see **Bolts,** Expansion

SHIFTERS, Phase—
see **Instruments,** Meter Testing

SHIPPING COVERS—
see **Covers,** Padded Appliance

SHOPS, Home Work

Speedway Mfg. Co., 1834 S. 52d Ave., Cicero, Ill.
Up-To-Date Machine Works, 2911 S. Wabash Ave., Chicago, Ill.

SHORT CIRCUIT LOCATORS—
see **Detectors,** Voltage

SHOW WINDOW LIGHTING FIXTURES—
see **Fixtures,** Show Window Lighting

SHOWCASE LIGHTING—
see **Fixtures,** Showcase Lighting

SHUNT GENERATORS—
see **Generators,** D. C. Shunt and Compound

SHUNT MOTORS—
see **Motors,** D. C. Shunt

SHUNTS—
see **Ammeters and Voltmeters**

SHUTTERS, Fan—
see **Fans,** Window Ventilating

SIGN CAPS—
see **Hoods,** Color

SIGN FLASHERS—
see **Flashers,** Magnetic
also **Flashers,** Motor Operated
also **Flashers,** Thermal

SIGN RECEPTACLES—
see **Receptacles,** Porcelain Medium

SIGN TRANSFORMERS—
see **Transformers,** Low Current and Voltage

SIGNAL CABLE, Contact—
see **Cable,** Signal Contact

SIGNAL HORNS—
see **Horns,** Signal

SIGNAL RELAYS—
see **Relays,** Signal

SIGNAL TRANSFORMERS—
see **Transformers,** Low Current and Voltage

SIGNALS, Hospital Calling
Visual Signal Systems designed for Calling Nurses

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Chicago Signal Co., 318 S. Green St., Chicago, Ill.
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127
Stanley & Patterson, 150 Varick St., New York, N. Y.
Usem Co., 515 W. 29th St., New York, N. Y.

SIGNALS, Industrial—
see **Bells**
also **Buzzers**
also **Horns**
also **Sirens**

SIGNS, Builders of
Contract Companies having Facilities for Building Electric Signs

American Signs Co., 436 Willard St., Kalamazoo, Mich.
Artkraft Sign Co., 118 S. Main St., Lima, Ohio
Brumfield Electric Sign Co., 965 Folsom St., San Francisco, Cal.
Buck & Co., C. H., 745 E. Sixth St., South Boston, Mass.
Century Mfg. Co., Elizabethtown, Pa.
Claude Neon Lights, Inc., 41 E. 42d St., New York, N. Y.
Federal Brilliant Co., 3531 Washington Ave., St. Louis, Mo.
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Flexlume Corp., 1100 Military Rd., Buffalo, N. Y.
Grazier Electrical Products Co., 961 Ash St., (Sunnyside) Johnstown, Pa.
Hayes Co., F. E., 44 Aqueduct St., Rochester, N. Y.
Ionic Light & Electric Co., 177 Concord St., Brooklyn, N. Y.
Lackner Co., 21 W. Pearl St., Cincinnati Ohio
Liberty-Consolidated Electric Sign Co., 926 Royal St., New Orleans, La.
Mitenius Sign Co., E., 110 W. Exchange St., Providence, R. I.
National Electric Sign Works, 44 E. Hall St., Battle Creek, Mich.
Neale Rainbow Light Corp., 1800 W. Pico St., Los Angeles, Cal.
Neon Electric Sign Co., 2130 N. Hudson Ave., Chicago, Ill.
Quehl Sign Co., 318 Main St., Cincinnati, Ohio
Rawson & Evans Co., 710 Washington Blvd., Chicago, Ill.
Service Sign Co., 322 W. Fort St., Detroit, Mich.
Universal Sign Co., 4858 W. Kinzie St. Chicago, Ill.
Viking Products Corp., 422 W. 42d St., New York, N. Y.
Willey Sign Co., 1559 Church St., Detroit, Mich.

SIGNS, Internally Lighted
Signs of Wood or Metal with Translucent Letters

C. & P. Electric Works, Shaws Lane, Springfield, Mass.
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Display Stage Lighting Co., 410 W. 47th St., New York, N. Y.
Erikson Electric Co., L., 6 Power House St., Boston, Mass.
Empco—see Frink Corp.
Frink Corp., 369 Lexington Ave., New York, N. Y. "Empco" "Polaralite"
Hub Electric Co., 2219 W. Grand Ave., Chicago, Ill.
Klemm Reflector Co., 132 N. Fifth St., Philadelphia, Pa.
Cataloged on page 119
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.
Cataloged on page 116
Perlite—see Willey Sign Co.
Polaralite—see Frink Corp.
Rawson & Evans Co., 710 Washington Blvd., Chicago, Ill.
Sunlight Reflector Co., 226 Pacific St., Brooklyn, N. Y.
Wheeler Reflector Co., 275 Congress St., Boston, Mass.
Willey Sign Co., 1559 Church St., Detroit, Mich. "Perlite"

SILICON STEEL—
see **Steel**, Silicon Sheet

SILK COVERED ENAMELED MAGNET WIRE—
see **Wire**, Enameled Magnet

SILK COVERED MAGNET WIRE—
see **Wire**, Cotton or Silk Covered Magnet

SILK SHADES—
see **Shades**, Fabric

SILK TAPE—
see **Tape and Sleeving**, Cotton
also **Tape**, Varnished or Oiled

SILK YARN—
see **Yarn**, Cotton or Silk

SILVER—
see **Platinum**

SILVER POINTS—
see **Platinum**

SILVER RIVETS—
see **Platinum**

SILVER RODS—
see **Platinum**

SILVER SOLDER—
see **Solder**, Silver

SILVER WIRE—
see **Platinum**

SINGLE-PHASE WATT-HOUR METERS—
see **Meters**, Watt-Hour Service

SINGLE STROKE BELLS—
see **Bells**, Indoor Alternating Current
also **Bells**, Indoor Transformer and Battery
also **Bells**, Outdoor Weatherproof

SIRENS, Electric
Large Motor Operated Signals; for Small Motor or Vibrating Armature Type Horns—see Horns, Signal

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 110
Box Iron Works Co., William A., 33d & Blake Sts., Denver, Col.
Erick Electric Siren Co., State & Fillmore Ave., St. Paul, Minn.
Faraday—see Stanley & Patterson
Federal Electric Co., 8700 S. State St., Chicago, Ill.
Schwarze Electric Co., E. Church St., Adrian, Mich.
Sireno Co., 75 Clinton St., Staten Island, N. Y.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Sterling Siren Fire Alarm Co., 47 Allen St., Rochester, N. Y.

SKELETON BELLS—
see **Bells**, Skeleton

SKINNERS, Wire—
see **Knives**, Cable Sheath Splitting
also **Knives**, Wire Stripping
also **Machines**, Wire End Stripping
also **Tools**, Wire Stripping

SLABS, Marble—
see **Marble**, Barrier and Slab

SLABS, Slate—
see **Slate**, Barrier and Slab

SLABS, Soapstone—
see **Soapstone**, Barrier and Slab

SLATE ASSOCIATIONS—
see **Associations**, Slate

SLATE, Barrier and Slab
For use as Switchboards, Arc-Preventive Barriers, Switch Bases, etc.

Clark-Flanagan, Inc., Fair Haven, Vt.
Durick, Keenan & Co., Fair Haven, Vt.
Fair Haven Marble & Marbleized Slate Co., Fair Haven, Vt.
Cataloged on page 151
Hydeville Slate Works, Hydeville, Vt.
Mahar Brothers, Fair Haven, Vt.
Monson Maine Slate Co., 38 Chauncy St., Boston, Mass.
National Slate Association, Drexel Bldg., Philadelphia, Pa. (Association)
Cataloged on page 151
New York Slate Works, 329 E. 117th St., New York, N. Y.
North Bangor Slate Co., Bangor, Pa.
Pennsylvania Structural Slate Co., First National Bank Bldg., Easton, Pa.
Penrhyn Slate Co., Hydeville, Vt.
Cataloged on page 151
Phoenix Slate Co., Wind Gap, Pa.
Cataloged on page 151
Portland-Monson Slate Co., Portland, Me.
Cataloged on page 151
Pyramid—see Structural Slate Co.
Slatington Slate Co., Slatington, Pa.
Structural Slate Co., Pen Argyl, Pa. "Pyramid"
Cataloged on page 151
Vermont Structural Slate Co., Fair Haven, Vt.
Young Co., A. B., Fair Haven, Vt.

SLATE SLABS—
see **Slate**, Barrier and Slab

SLEEVE TWISTERS—
see **Clamps**, Splicing

SLEEVES, Pole Extension—
see **Tools**, Pruning

SLEEVES, Rubber
Sleeves of Rubber; for Rubber Gloves with Sleeves—see Gloves, Rubber

Mathias-Hart Co., 98 Academy St., Newark, N. J. "Perfection"
Perfection—see Mathias-Hart Co.

SLEEVES, Splicing—
see **Sleeves**, Wire Splicing

SLEEVES, Wire Splicing
Copper Sleeves or Tubes for use in Splicing Line Wires

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Hatch Co., E. G., 120 Broadway, New York, N. Y.
High Tension Co., 149 Broadway, New York, N. Y.
McIntire Connector Co., Jefferson & Chestnut Sts., Newark, N. J.
Memco Engineering & Mfg. Co., 79 Freeman St., Long Island City, N. Y.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
National Telephone Supply Co., 5100 Superior Ave., Cleveland, Ohio

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 42

Thoner & Martens, 463 Commercial St., Boston, Mass.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wolverine Tube Co., 1451 Central Ave., Detroit, Mich.

SLEEVING, Cotton—
see **Tape and Sleeving**, Cotton

SLEEVING, Fabric—
see **Tubing**, Varnished or Oiled Fabric

SLIP-RING MOTORS—
see **Motors**, A. C. Slip-Ring

SLOT CLEANERS, Armature—
see **Slotters**, Commutator

SLOT SCRAPERS—
see **Files**, Commutator Slotting

SLOT STICKS—
see **Wedges**, Armature

SLOTTERS, Commutator
Motor Driven Slotting or Undercutting Machines; for Hand Slotting Files—see Files, Commutator Slotting; for Slotter Saws—see Saws, Commutator Slotting

Ankenbrandt, J. J., 2140 Wakeman St., Toledo, Ohio

Aurand—see Green Equipment Corp.

Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill. "Aurand"

Hullhorst Micro Tool Co., 3242 Monroe St., Toledo, Ohio

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
Cataloged on page 139

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

SLOTTING FILES—
see **Files**, Commutator Slotting

SLOTTING SAWS—
see **Saws**, Commutator Slotting

SLOW BURNING WIRE—
see **Wire**, Weatherproof

SLUGS, Conduit—
see **Seals**, Conduit

SNAKE WIRE—
see **Wire**, Fish

SNAP SWITCHES—
see **Switches**, Ceiling Pull
also **Switches**, Cord
also **Switches**, Door Flush
also **Switches**, Fixture
also **Switches**, Flush Push
also **Switches**, Flush Toggle
also **Switches**, Rotary Flush
also **Switches**, Series Multiple Snap
also **Switches**, Surface Snap

SOAPSTONE, Barrier and Slab
For use as Switchboards, Arc Preventive Barriers, Switch Bases, etc.

Alberene Stone Co., 153 W. 23d St., New York, N. Y.

SOCKET ADAPTERS—
see **Adapters**, Socket

SOCKET BODIES—
see **Sockets**, Composition
also **Sockets**, Metal Shell
also **Sockets**, Porcelain

SOCKET BUSHINGS—
see **Bushings**, Socket

SOCKET CAPS—
see **Sockets**, Composition
also **Sockets**, Metal Shell
also **Sockets**, Porcelain

SOCKET COVERS—
see **Canopies**, Fixture
also **Holders**, Shade

SOCKET FLASHERS—
see **Flashers**, Thermal

SOCKET LININGS—
see **Linings**, Socket

SOCKET PLUGS—
see **Plugs**, Separable Attachment
also **Sockets**, Extension
also **Sockets**, Multiple

SOCKET REDUCERS—
see **Adapters**, Socket

SOCKET RINGS—
see **Rings**, Socket

SOCKETS, Brass Shell Medium—
see **Sockets**, Metal Shell Medium

SOCKETS, Candle
Sockets formed to imitate Candles and Stems for use with Candle Shells

Alcor Mfg. Co., 4607 W. Madison St., Chicago, Ill.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Federal Electric Co., 8700 S. State St., Chicago, Ill.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

McGill Mfg. Co., Valparaiso, Ind. "Nevolier"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Nevolier—see McGill Mfg. Co.

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I. (Acushnet) New Bedford, Mass.

P & S—see Pass & Seymour

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

SOCKETS, Composition Candelabra or Miniature
Sockets with Bodies of Molded Insulating Material; for Porcelain Sockets—see Sockets, Porcelain

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Morse Co., Frank W. 289 Congress St., Boston, Mass.

Propp Co., M., 524 Broadway, New York, N. Y.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

SOCKETS, Composition Medium
Sockets with Bodies of Molded Insulating Material; for Porcelain Sockets—see Sockets, Porcelain

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 107

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page 54

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 57

General Electric Co., Bridgeport, Conn.
Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Propp Co., M., 524 Broadway, New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

SOCKETS, Composition Mogul
Sockets with Bodies of Molded Insulating Material; for Porcelain Sockets—see Sockets, Porcelain

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 107

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

SOCKETS, Dimming or Regulating
Sockets provided with Variable Resistance to regulate the Brightness of the Lamp; for Transformer Sockets—see Sockets, Transformer

Anylite Electric Co., 1418 Wall St., Fort Wayne, Ind.

Dim-A-Lite—see Wirt Co.

Kew Electric Mfg. Corp., 589 Hudson St., New York, N. Y. "Lo-Lite"

Lo-Lite—see Kew Electric Mfg. Corp.

Wirt Co., 5227 Greene St., (Germantown) Philadelphia, Pa. "Dim-A-Lite"

SOCKETS, Extension
Edison Base Plugs with Medium Sockets

Anylite Electric Co., 1418 Wall St., Fort Wayne, Ind.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Betts & Betts Corp., 645 W. 43d St., New York, N. Y.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Propp Co., M., 524 Broadway, New York, N. Y.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

SOCKETS, Lamp Locking

Sockets provided with means for Locking the Lamp into the Socket

Arrolock—see Arrow-Hart & Hegeman Electric Co.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Arrolock" "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

General Electric Co., Bridgeport, Conn. Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart & Hegeman Mfg. Co., 342 Capitol Ave., Hartford, Conn. "H & H"

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "Shurlock"

Shurlock—see Pass & Seymour

SOCKETS, Metal Shell Candelabra or Miniature

Key, Keyless and Pull Type Sockets with Metal Shells

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

SOCKETS, Metal Shell Medium

Key, Keyless and Pull Type Sockets with Metal Shells

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill. Cataloged on page 107

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "New Wrinkle" "Titan" "Wrinklet"

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. Cataloged on page 57

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

General Electric Co., Bridgeport, Conn. Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leader—see Leviton Mfg. Co.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y. "Leader"

McGill Mfg. Co., Valparaiso, Ind.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

New Wrinkle—see Bryant Electric Co.

P & S—see Pass & Seymour

Pass & Seymour Inc., Solvay Station, Syracuse, N. Y. "P & S"

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Tecco—see Meteor Electric Corp.

Titan—see Bryant Electric Co.

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

Weber Electric Co.—see Sears, Henry D.

Wrinklet—see Bryant Electric Co.

SOCKETS, Metal Shell Mogul

Metal Shell Sockets; for Porcelain Sockets—see Sockets, Porcelain

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

P & S—See Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

SOCKETS, Multiple

Edison Base or Prong Plugs with Two or More Medium, Sockets—see also Plugs, Multiple Tap; for Plugs with One Socket—see Sockets, Extension

Advance Household Appliances, Inc., Wapakoneta, Ohio

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Anylite Electric Co., 1418 Wall St., Fort Wayne, Ind.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. Cataloged on page 61

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Paiste—see Arrow-Hart & Hegeman Electric Co.

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Smith & Co., T. C., 3915 Powelton Ave., Philadelphia, Pa.

Stern-Brown, 257 W. 17th St., New York, N. Y.

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"

Usalite—see United States Electric Mfg. Corp.

SOCKETS, Porcelain Candelabra or Miniature

Sockets with Bodies of Porcelain; for Composition Sockets—see Sockets, Composition

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Federal Electric Co., 8700 S. State St., Chicago, Ill.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

SOCKETS, Porcelain Medium

Sockets with Bodies of Porcelain; for Composition Sockets—see Sockets, Composition

A & W—see Armstrong & White

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrobell—see Arrow-Hart & Hegeman Electric Co.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Arrobell" "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. Cataloged on page 54

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. Cataloged on page 58

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

General Electric Co., Bridgeport, Conn. Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

Weber Electric Co.—see Sears, Henry D.

SOCKETS, Porcelain Mogul

Mogul Sockets with Bodies of Porcelain; for Metal Shell Sockets—see Sockets, Composition

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J. Cataloged on page 58

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Line Material Co., South Milwaukee, Wis.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

U. S. Electric Co., 18 Chambers St., Trenton, N. J.

SOCKETS, Transformer

Sockets or Extension Sockets containing a Small Transformer

All-Nite-Lite—see General Electric Co.

Betts & Betts Corp., 645 W. 43d St., New York, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y. "All-Nite-Lite"

SOCKETS, Weatherproof

Sockets designed for Outdoor Use

A & W—see Armstrong & White

Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Benco—see Benjamin Electric Mfg. Co.

Benjamin Electric Mfg. Co., Des Plaines, Ill. "Benco"
Cataloged on page.....107

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on page.....54

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page.....58

Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hoosick Falls Radio & Electrical Parts Mfg. Co., Hoosick Falls, N. Y.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Noark—see Colt's Patent Fire Arms Mfg. Co.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Porcelain Products, Inc., Findlay, Ohio

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Siemon Co., State St. & Baum Blvd., Bridgeport, Conn.

Stern-Brown, 257 W. 17th St., New York, N. Y.

Tecco—see Meteor Electric Corp.

Trenle Porcelain Co., East Liverpool, Ohio

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.

Wood Electric Co., C. D., 565 Broadway, New York, N. Y.

SOFT IRON WIRE—

see **Wire,** Soft Iron

SOFT RUBBER—

see **Rubber,** Sponge

SOLDER

American Smelting & Refining Co., 201 First St., San Francisco, Cal.

American Solder & Flux Co., 2910 N. 16th St., Philadelphia, Pa. "Tinol"

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn, N. Y.

Cambridge Smelting Co., 100 Pacific St., Cambridge, Mass.

Eagle-Picher Lead Co., 134 N. La Salle St., Chicago, Ill.

Gardiner Metal Co., 1356 W. Lake St., Chicago, Ill.

General Electric Co., Bridgeport, Conn.

Handy & Harman, 57 William St., New York, N. Y.
Cataloged on page.....176

Kester Solder Co., 4212 Wrightwood Ave., Chicago, Ill.

Lewis & Bros. Co., John T., 437 Chestnut St., Philadelphia, Pa.

Lukens Metal Co., Thomas F., 1105 Fairmount Ave., Philadelphia, Pa.

Magnolia Metal Co., 75 West St., New York, N. Y.

Michigan Smelting & Refining Co., 7885 Jos. Campau Ave., Detroit, Mich.

More-Jones Brass & Metal Co., 4930 Manchester Ave., St. Louis, Mo.

Seaboard Metal Corp., 30 Church St., New York, N. Y.

Tinol—see American Solder & Flux Co.

United American Metals Corp., foot of Clay St., Brooklyn, N. Y.

United States Smelting Works, 1617 Spring Garden St., Philadelphia, Pa.

Waterbury Cable Service, Inc., 342 Madison Ave., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page.....97

SOLDER, Aluminum—

see **Solder**

SOLDER, Rosin Core—

see **Solder**

SOLDER, Self Fluxing —

see **Solder**

SOLDER, Silver

Covering only Companies Cataloging this Product

Handy & Harman, 57 William St., New York, N. Y.
Cataloged on page.....176

SOLDERING FLUX—

see **Flux,** Soldering

SOLDERING IRONS—

see **Coppers,** Soldering
also **Irons,** Electric Soldering

SOLDERING LUGS—

see **Lugs,** Soldering Cable
also **Terminals,** Wire

SOLDERING POTS—

see **Pots,** Electric Melting
also **Pots,** Non-Electric Soldering

SOLDERLESS CONNECTORS—

see **Connectors,** Solderless Insulated
also **Connectors,** Solderless Uninsulated

SOLDERLESS LUGS—

see **Lugs,** Solderless

SOLENOID FLASHERS—

see **Flashers,** Magnetic

SOLENOID SWITCHES—

see **Switches,** Magnetic

SOUND AMPLIFIERS—

see **Amplifiers,** Sound

SPACE HEATERS—

see **Heaters,** Industrial Space

SPACING BOLTS—

see **Bolts,** Double Arming

SPAGHETTI—

see **Tubing,** Varnished or Oiled Fabric

SPEAKERS, Loud

Covering only Companies Cataloging this Product

TCA—see Transformer Corp. of America

Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA"
Cataloged on page.....177

SPEED INDICATORS—

see **Indicators,** Speed
also **Tachometers**

SPEED REDUCERS—

see **Reducers,** Speed

SPEED REGULATING RHEOSTATS—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

SPEED REGULATORS, Motor—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

SPICE GRATERS—

see **Graters,** Electric Food

SPINDLES, Fixture—

see **Canopies,** Fixture

SPITS, Roasting

Motor Driven Barbecue Outfits

Cook Electric Heating Co., 717 Frankfort Ave., Cleveland, Ohio

Kingery Mfg. Co., 420 E. Pearl St., Cincinnati, Ohio

Prima Mfg. Co., Sidney, Ohio

Savory, Inc., 90 Alabama St., Buffalo, N. Y.

SPLICING CLAMPS—

see **Clamps,** Splicing

SPLICING LINKS, Bead Chain—

see **Fittings,** Pull Chain

SPLICING SLEEVES—

see **Sleeves,** Wire Splicing

SPLICING TUBES—

see **Sleeves,** Wire Splicing

SPLIT KNOBS—

see **Knobs,** Porcelain Wiring

SPLIT MICA—

see **Mica**

SPLIT-PHASE MOTORS—

see **Motors,** A. C. Split-Phase

SPONGE RUBBER—

see **Rubber,** Sponge

SPOOL INSULATORS—

see **Insulators,** Spool Type

SPOOL WINDING MACHINES—

see **Machines,** Coil Winding

SPOOLING MACHINES—

see **Machines,** Wire Spooling

SPOOLS, Wood—

see **Handles,** Wooden Appliance

SPOT WELDERS—

see **Welders,** Arc

SPOTLIGHTS—

see **Projectors,** Flood Lighting

SPRAYERS, Hand Paint

Complete Motor Operated Units; for Blowers with Paint Spraying Attachments—see Blowers; Electric Portable; for Vacuum Cleaners with Attachments for Paint Spraying—see Cleaners, Portable Vacuum

Atomister Corp., 21 Hamilton St., Rahway, N. J.

Electric Sprayit Co., 320 E. Colfax Ave., South Bend, Ind. "Sprayit"

Metal Specialties Mfg. Co., 352 N. Kedzie Ave., Chicago, Ill. "Presto"

O. K. Machine Co., Fairfield Ave. & Poplar St., Fort Wayne, Ind.

Presto—see Metal Specialties Mfg. Co.

Sprayit—see Electric Sprayit Co.

SPREADERS, Coil—

see **Machines,** Coil Winding

SPRING BRONZE—

see **Bronze,** Spring

SPRING DRILLS—

see **Drills,** Hammer and Spring

SPRING REELS—

see **Reels.** Extension Cord

SPRING STEEL—

see **Steel,** Spring

SPRINGS, Burglar Alarm—

see **Switches,** Burglar Alarm

SPRINGS, Hair

Spiral or Helical Springs of Steel, Brass or Bronze; for Heavy Machinery Springs—see Springs, Machinery or Coil

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.

Eagle Brand—see Miller & Van Winkle

Manross & Sons, F. N., Forestville, Conn.

Miller & Van Winkle, 34 Bridge St., Brooklyn, N. Y. "Eagle Brand"

Newcomb Spring Corp., Bush Terminal, **Brooklyn, N. Y.**

Peck Spring Co., Plainville, Conn.
Cataloged on page 166

SPRINGS, Machinery or Coil

Spiral or Helical Springs of Steel, Brass or Bronze; for Hair Springs—see Springs, Hair

Advance Spring & Wire Co., Carroll Ave. & Wood St., Chicago, Ill.

American Spiral Spring & Mfg. Co., 5528 Harrison St., Pittsburgh, Pa.

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.

Barnes Co., Wallace, 30 Main St., Bristol, Conn.
Cataloged on page 162

Barnes, Gibson, Raymond, Inc., (Detroit Div.) 64 Miller Ave., Detroit, Mich.

Chicago Coil Spring Co., Albany & Carroll Aves., Chicago, Ill.

Dunbar Bros. Co., 80 South St., Bristol, Conn.

Eagle Brand—see Miller & Van Winkle

Everitt Co., 264 Franklin St., Boston, Mass.

Fischer Spring Co., Chas., 240 Kent Ave., Brooklyn, N. Y.

Gibson Co., Wm. D., 1824 Clybourn Ave., Chicago, Ill.
Cataloged on page 163

Hebb Spring Works, Geo. A., 126 South St., Newark, N. J.

Hubbard Spring Co., M. D., Pontiac, Mich.

Hunter Pressed Steel Co., Lansdale, Pa
Cataloged on page 164

Lee Spring Co., 34 Main St., Brooklyn, N. Y.

Mattatuck Mfg. Co., E. Main St., Waterbury, Conn.

Miller & Van Winkle, 34 Bridge St., Brooklyn, N. Y. "Eagle Brand"

New York Wire & Spring Co., Newark. N. J.

Newcomb Spring Corp., Bush Terminal Brooklyn, N. Y.
Cataloged on page 165

Peck Spring Co., Plainville, Conn.
Cataloged on page 166

Railway Steel-Spring Co., 30 Church St., **New York, N. Y.**

Raymond Mfg. Co., Corry, Pa.

Union Spring & Mfg. Co., New Kensington, Pa.

SPROCKETS—

see **Gears and Pinions,** Metal

SPUR GEAR REDUCERS—

see **Reducers,** Speed

SQUIRREL-CAGE MOTORS—

see **Motors,** A. C. Squirrel-Cage

STAGE CABLE—

see **Cord,** Heavy Duty

STAGE LIGHTING FIXTURES—

see **Fixtures,** Stage Lighting

STAGE POCKETS—

see **Pockets,** Stage

STAIR TREAD SWITCHES—

see **Switches,** Stair Tread Controlled

STAMPINGS, Fibre—

see **Fibre,** Vulcanized
also **Insulation,** Synthetic

STAMPINGS, Metal

Manufacturers equipped to produce Metal Stampings from Blueprints or Specifications; for Fibre Punchings—see Fibre, Vulcanized; for Fixture Canopies—see Canopies, Fixture

Acklin Stamping Co., 1925 Nebraska Ave., Toledo, Ohio

Alemite Die Casting & Mfg. Co., Woodstock, Ill.

Allied Metal Industries, Inglewood, Cal.

Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.

Aluminum Goods Mfg. Co., 15th & Franklin Sts., Manitowoc, Wis.

American Metal Works, 4861 Stenton Ave., Philadelphia, Pa.

American Nut & Bolt Fastener Co., 2045 **Doerr St., Pittsburgh, Pa.**

American Pin Co., **Waterbury, Conn.**

American Ring Co., 531 Bank St., Waterbury, Conn. "Ringco Brand"

American Specialty Co., 165 Holland Ave., Bridgeport, Conn.

Angell Metal Embossing Co., Barney & Smith Bldg., Dayton, Ohio

Arrow Automatic Products Corp., 29 Vestry St., New York, N. Y.

Auld Co., D. L., Fifth Ave. & Fifth St., Columbus, Ohio

B. & L. Metal Stamping Co., 250 Moore St., Brooklyn, N. Y. "Belmet"

Barnes Co., Wallace, 30 Main St., Bristol, Conn.
Cataloged on page 16

Barnes, Gibson, Raymond, Inc., (Detroit Div.) 64 Miller Ave., Detroit, Mich.

Bay State Stamping Co., 380 Chandler St., Worcester, Mass.

Bead Chain Mfg. Co., 1930 Mountain Grove St., Bridgeport, Conn.

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn.

Belmet—see B. & L. Metal Stamping Co.

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.

Bossert Corp., 1002 Oswego St., Utica, N. Y.

Boston Pressed Metal Co., 173 Union St., Worcester, Mass.

Bowen Products Corp., Auburn, N. Y.

Bridgeport Brass Co., E. Main St., Bridgeport, Conn.

Bridgeport Chain Co., 964 Crescent Ave., Bridgeport, Conn.

Bridgeport Metal Goods Co., Cherry & Pine Sts., Bridgeport, Conn.

Chandler Co., Springfield, Mass.

Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

Chase-Crescent Co., Mountain Grove, Mo.

Clark Metal Products, Inc., 490 Hancock Ave., Bridgeport, Conn.

Cleveland Wrought Products Co., W. 60th St. at Denison Ave., Cleveland, Ohio

Cogswell Mfg. Co., 140 Norman St., West Springfield, Mass.

Dallas Brass & Copper Co., 820 Orleans St., Chicago, Ill.

Defiance Mfg. Co., Defiance, Ohio

Dunbar Bros. Co., 80 South St., Bristol, Conn.

Elias & Bro., G., 965 Elk St., Buffalo, N. Y.

Eureka Tool & Machine Co., 42 Walnut St., Newark, N. J.

Everitt Co., 264 Franklin St., Boston, Mass.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Fenton Machine Tool & Die Co., Fenton, Mich.

Fischer Spring Co., Chas., 240 Kent Ave., Brooklyn, N. Y.

G G G Metal Stamping Co., Warren, Pa.

Gasket Supply Co., Red Hill, Pa.

General Stamping Works, 243 E. 24th St., New York, N. Y.

Geuder, Paeschke & Frey Co., St. Paul Ave. & 15th St., Milwaukee, Wis.

Gibson Co., Wm. D., 1824 Clybourn Ave., Chicago, Ill.
Cataloged on page 163

Graffam Metal Products Co., 34 Southbridge St., Worcester, Mass.

Grammes & Sons, L. F., Allentown, Pa.

Gray Brothers, Plano, Ill.

Hunter Pressed Steel Co., Lansdale, Pa.
Cataloged on page 164

Kar Engineering Co., 200 Hudson St., New York, N. Y.

Knapp Mfg. & Supply Co., 241 Water St., New York, N. Y.

L. A. Metal Products, Inc., 2450 E. 55th St., Los Angeles, Cal.

Lenz Metal Stamping Works, J., 199 Franklin St., New York, N. Y.

Leyse Aluminum Co., Kewaunee, Wis.

Lindseen, Inc., Gustave, 830 Central Ave., Chicago, Ill.

Livermore, H. F., 10 Linden St., Allston, Mass.

Lorentzen, H. K., 155 Leonard St., New York, N. Y.

Lovejoy Chaplet Co., River St. & B. & M. R.R., Hoosick Falls, N. Y.

Lundquist Tool & Mfg. Co., 144 Green St., Worcester, Mass.

Massachusetts Machine Shop, 817 Albany St., Boston, Mass.
Cataloged on page 148

Mattatuck Mfg. Co., E. Main St., Waterbury, Conn.

Matthews Mfg. Co., 104 Gold St., Worcester, Mass.

Merwin Mfg. Co., 19th & German Sts., Erie, Pa.

Metalcraft & Tool Co., 202 Pennsylvania Ave., Hillside, N. J.

Metropolitan-Columbia Mfg. Co., 722 Metropolitan Ave., Brooklyn, N. Y.

Motor Specialties Corp., foot of Mt. Elliott Ave., Detroit, Mich.

Motors Metal Mfg. Co., 5936 Milford Ave., Detroit, Mich.

Muter Co., Leslie F., 3440 S. Chicago Ave., Chicago, Ill.
New England Pressed Steel Co., Washington St., Natick, Mass.
Parker Metal Goods Co., 18 Grafton St., **Worcester, Mass.**
Patton-Mac Guyer Co., Baker St. & Virginia Ave., Providence, R. I.
Paul & Beekman Mfg. Co., 1734 N. Fifth St., **Philadelphia, Pa.**
Peck-Harris Mfg. Co., Plainville, Conn.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Phoenix Products Co., Phoenix, N. Y.
Platt Bros. & Co., Waterbury, Conn.
Powell Pressed Steel Co., Hubbard, Ohio
Pratt Chuck Co., Main St., Frankfort, N. Y.
Quadriga Mfg. Co., 213 W. Grand Ave., Chicago, Ill.
Raymond Mfg. Co., Corry, Pa.
R-B-M Mfg. Co., Logansport, Ind.
Reiter, G. C., 1917 Henry Ave., S. W., Canton, Ohio
Reliable Parts Mfg. Co., Magyer St. & Big Four R.R., Wellington, Ohio
Richmond Pressed Metal Works, 506 Maury St., Richmond, Va.
Ringco Brand—see American Ring Co.
Risdon Mfg. Co., Naugatuck, Conn.
Rockwood Sprinkler Co. of Massachusetts, 38 Harlow St., Worcester, Mass.
Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169
Seymour Products Co., Seymour, Conn.
Stanley Mfg. Co., 46 Cannon St., Dayton, Ohio
Steele & Johnson Mfg. Co., 779 S. Main St., Waterbury, Conn.
Teleradio Engineering Corp., 484 Broome St., New York, N. Y.
Thomas & Skinner Steel Products Co., 1120 E. 23d St., Indianapolis, Ind.
Toaz Engineering & Sales Co., 11703 Robertson Ave., Cleveland, Ohio
Toledo Pressed Steel Co., 12th & Woodruff Ave., Toledo, Ohio
U. S. Tool Co., Ampere, N. J.
Viking Tool & Machine Co., 751 65th St., Brooklyn, N. Y.
Washburn Co., 6126 S. La Salle St., Chicago, Ill.
Waterbury Brass Goods Corp., 26 Crane St., Waterbury, Conn.
Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.
Cataloged on page 161
Webster Co., 850 Blackhawk St., Chicago, Ill.
Wheeler & Son, Frank, Meriden, Conn.
Worcester Pressed Aluminum Co., 73 Beacon St., Worcester, Mass.
Zierick Machine Works, F. R., 72 E. 131st St., New York, N. Y.

STAMPS, Electric Time

Time Stamps with Secondary Clock Movements

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
Commercial Utilities Mfg. Co., 147 Waverly Pl., New York, N. Y.
Faraday—see Stanley & Patterson
Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Stromberg Electric Co., 233 W. Erie St., Chicago, Ill.

STANDARD INDUCTANCES—

see **Inductances,** Standard Unit

STANDARD KNIFE SWITCHES—

see **Switches,** Standard Knife

STANDARDS, Floor—

see **Fixtures,** Public Building Floor Standard

STANDS, Bench Drill

Covering only Companies Cataloging this Product

Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 135

STANDS, Heat Regulating Iron

Stands equipped with Automatic Switches to prevent Over Heating

Acme Electric Heating Co., 1277 Washington St., Boston, Mass.
Defiance—see National Distributing Co.
National Distributing Co., 507 Fifth St., Defiance, Ohio "Defiance"
Rite-Hete Appliances, Inc., 1200 14th Ave., S. E., Minneapolis, Minn.

STANDS, Illuminated Christmas Tree

Christmas Tree Stands equipped with Sockets for Medium Base Lamps

Genesee Electric Co., Mount Morris, N. Y.
Noma Electric Corp., 344 Hudson St., New York, N. Y.
Peerless Light Co., 663 W. Washington Blvd., Chicago, Ill.
United States Electric Mfg. Corp., 222 W. 14th St., New York, N. Y. "Usalite"
Usalite—see United States Electric Mfg. Corp.

STAPLES, Insulated

Double Pointed Staples for use in Holding Low Voltage Wires

Blake Signal & Mfg. Co., 221 High St., Boston, Mass.
Eureka Supply Co., 301 Stanwick Ave., Moorestown, N. J.
Rhodes & Sons Co., M. M., 12 Porter St., Taunton, Mass.
Superior Mfg. Co., 193 South St., Fitchburg, Mass.

STARTERS, Across-the-Line, Motor—

see **Controllers,** Manual Motor

STARTERS, Motor—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor

STEAM RADIATORS—

see **Radiators,** Electric Fluid Type

STEAM TABLES—

see **Tables,** Electrically Heated Steam

STEAM TIGHT FIXTURES—

see **Fixtures,** Vaporproof

STEAMERS, Battery—

see **Openers,** Battery

STEEL CASTINGS—

see **Castings,** Steel

STEEL, Coated Sheet

Covering only Companies Cataloging this Product

Follansbee Bros. Co., Third & Liberty Sts. Pittsburgh, Pa.
Cataloged on page 174

STEEL CONDUIT—

see **Conduit,** Flexible Metallic
also **Conduit,** Rigid Steel

STEEL, Silicon Sheet

Steel for use in Transformer Cores, Field Cores and Armatures

Agathon—see Central Alloy Steel Corp.
Allegheny Steel Co., Brackenridge, Pa.
American Rolling Mill Co., Middletown, Ohio "Armco"
American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa.
Armco—see American Rolling Mill Co.
Central Alloy Steel Corp., Massillon, Ohio "Agathon"
Empire Steel Corp., N. Bowman St., Mansfield, Ohio
Cataloged on page 173
Follansbee Bros. Co., Third & Liberty Sts., Pittsburgh, Pa.
Cataloged on page 174
Newport Rolling Mill Co., Ninth & Lowell Sts., Newport, Ky.
Republic Steel Corp., Republic Bldg., Youngstown, Ohio
Cataloged on page 175
West Penn Steel Co., Brackenridge, Pa.
Wheeling Steel Corp., Wheeling Steel Corp. Bldg., Wheeling, W. Va.

STEEL, Spring

Special Steel Stock for forming Springs

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Athenia Steel Co., 135 William St., New York, N. Y.
Barnes Co., Wallace, 30 Main St., Bristol, Conn.
Cataloged on page 162
Boker & Co., H., 103 Duane St., New York, N. Y.
Crucible Steel Co. of America, 17 E. 42d St., New York, N. Y.
Donner Steel Co., 475 Abbott Rd., Buffalo, N. Y.
Poldi Steel Corp. of America, 245 W. 18th St., New York, N. Y.

STEEL TAPED CABLES—

see **Cable,** Armored Park

STEEL, Transformer—

see **Steel,** Silicon Sheet

STEMS, Candle Socket—

see **Sockets,** Candle

STEMS, Fixture—

see **Studs,** Fixture

STEP BACK RELAYS—

see **Relays,** Current Control

STEP BOLTS—

see **Bolts,** Carriage and Step

STEP LIGHTS—

see **Fixtures,** Theatre

STEPS, Metal Pole

Covering only Companies Cataloging this Product

American Steel & Wire Co., 208 S. LaSalle St., Chicago, Ill.
Cataloged on page 20

STEPS, Wood Pole—

see **Brackets,** Wood Insulator

STERILIZERS, Water

Electrical Appliances for Purifying Water

American Sterilizer Co., 1230 Plum St., Erie, Pa.
Avery Electric Purifier Corp., 202 S. State St., Chicago, Ill.

STICKERS—
see **Shellac**

STICKS, Armature—
see **Wedges, Armature**

STILLS, Electrically Heated
Electrically Heated Stills for use in Laboratories or Battery Service Stations

Barnstead Still & Sterilizer Co., 2 Lanesville Terrace, Boston, Mass.
Stokes Machine Co., F. J., 5850 Tabor Rd., Olney P. O., Philadelphia, Pa.
Weber Bros. Metal Works, 108 N. Jefferson St., Chicago, Ill.

STILLS, Laboratory—
see **Stills, Electrically Heated**

STILLS, Water—
see **Stills,** Electrically Heated

STOCKS and DIES, Conduit Threading
Hand Tools for use in Cutting Threads on Steel Conduit

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.
Armstrong Bros. Tool Co., 357 N. Francisco Ave., Chicago, Ill.
Armstrong Mfg. Co., Knowlton St., Bridgeport, Conn.
Bay State Tap & Die Co., 75 Chauncey St., Mansfield, Mass.
Beaver—see Borden Co.
Borden Co., 513 Dana Ave., Warren, Ohio "Beaver"
Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.
Erie Tool Works, 11th & French Sts., Erie, Pa.
Greenfield Tap & Die Corp., Sanderson St., Greenfield, Mass. "Little Giant"
Hollands Mfg. Co., 350 E. 18th St., Erie, Pa.
Jarecki Mfg. Co., E. Ninth St., Erie, Pa.
Little Giant—see Greenfield Tap & Die Corp.
Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.
Oster Mfg. Co., 2057 E. 61st St., Cleveland, Ohio
Pratt & Whitney Co., 436 Capitol Ave., Hartford, Conn.
Reed Mfg. Co., Erie, Pa.
Toledo Pipe Threading Machine Co., 1425 Summit St., Toledo, Ohio
Walworth Co., Statler Bldg., Boston, Mass.

STONES, Commutator Grinding
Abrasive Stones for use in Smoothing Commutators

Acme Abrasive Co., 1048 Webster Ave., Chicago, Ill.
BBB—see Becker Bros. Electrical Corp.
Becker Bros. Electrical Corp., 25 N. Jefferson St., Chicago, Ill. "BBB"
Boxill-Bruel Carbon Co., Columbia Park, Ohio "Comlith"
Cass—see Electric Service Supplies Co.
Cleveland Stone Co., Union Trust Bldg., Cleveland, Ohio
Co-Operative Utilities Co., 1503 Columbia Ave., Philadelphia, Pa. "Diamond D"
Comlith—see Boxill-Bruel Carbon Co.
Diamond D—see Co-Operative Utilities Co.
Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Cass"
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
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Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

STOP COUNTERS—
see **Counters,** Revolution

STOPPING CONDENSERS—
see **Condensers,** Paper

STORAGE BATTERIES—
see **Batteries,** Small Capacity Storage

STORAGE BATTERY CHARGERS—
see **Motor-Generators,** Battery Charging
also **Rectifiers,** Battery Charging Bulb
also **Rectifiers,** Battery Charging, Electrolytic or Chemical
also **Rectifiers,** Battery Charging Vibrator or Mechanical

STORAGE BATTERY ELECTROLYTE—
see **Acid,** Sulphuric

STORAGE BATTERY RACKS—
see **Batteries,** Small Capacity Storage

STORAGE BATTERY SYRINGES—
see **Syringes,** Bulb

STOVE BOLTS—
see **Bolts,** Stove

STOVE WIRE—
see **Wire,** Asbestos Covered

STOVES, Electric Table
Small Electric Stoves complete with Pans for Broiling, Toasting or Frying; for Disc Stoves—see Plates, Electric Hot

Armstrong Electric & Mfg. Corp., 1018 Seventh St., Huntington, W. Va.
Bak-O-Grill—see National Enameling & Stamping Co.
Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"
Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill. "Sunbeam"
Economy Aluminum Co., 2700 Fulton St., Chicago, Ill. "Excelo"
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Excelo—see Economy Aluminum Co.
Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"
Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.
Hotpoint—see Edison General Electric Appliance Co.
L & H—see Lindemann & Hoverson Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"
Manning, Bowman & Co., Meriden, Conn.
Marion—see Rutenber Electric Co.
National Enameling & Stamping Co., 2[illegible] 12th St., Milwaukee, Wis. "Bak-O-Grill"
Rimco—see Rock Island Mfg. Co.
Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco"
Rutenber Electric Co., Marion, Ind. "Marion"
Star-Rite—see Fitzgerald Mfg. Co.
Sunbeam—see Chicago Flexible Shaft Co.
Torrid—see Beardsley & Wolcott Mfg. Co.
Universal—see Landers, Frary & Clark
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

STOVES, Toy—
see **Toys,** Electric

STRAIGHTENERS, Hair—
see **Combs,** Electrically Heated

STRAIN INSULATORS—
see **Insulators,** Strain

STRAND, Copper Covered—
see **Wire,** Copper Covered Steel

STRAND, Galvanized —
see **Cable,** Galvanized Steel

STRANDING MACHINES—
see **Machines,** Wire Stranding

STRAPS, Beam—
see **Clamps,** Beam

STRAPS, Climber
Leather Straps used to fasten Lineman's Pole Climbers

Buckingham, W. H., 12 Bronson St., Binghamton, N. Y.
Buhrke Co., R. H., 4538 Fullerton Ave., Chicago, Ill.
Crescent Tool Co., 200 Harrison St., Jamestown, N. Y. "Red Devil"
Cronk & Carrier Mfg. Co., Montour Falls, N. Y.
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.
Red Devil—see Crescent Tool Co.

STRAPS, Conduit Pipe
"U" Shaped Metal Straps for Mounting Conduit or Pipe on Flat Surfaces; for Pipe Hangers—see Hangers, Conduit Pipe

Acme Pipe Strap Co., 944 Harper Ave., Detroit, Mich.
Adalet Mfg. Co., 4610 St. Clair Ave., N. E., Cleveland, Ohio
Adapti Co., 2996 E. 72d St., Cleveland, Ohio
All-Steel-Equip Co., Aurora, Ill.
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Arroflex—see Arrow Flexible Conduit Co.
Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y. "Arroflex"
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Berger Brothers Co., 237 Arch St., Philadelphia, Pa.
Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.
Buck—see Thomas & Betts Co.
C. S. T.—see Chicago Steel Tank Co.
C. W. P.—see Cleveland Wrought Products Co.
Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."
Cleveland Wrought Products Co., W. 60th St. at Denison Ave., Cleveland, Ohio "C. W. P."
Clipit—see Gillette-Vibber Co.
Columbia Metal Box Co., 260 E. 143d St., New York, N. Y.
Diamond Expansion Bolt Co., Garwood, N. J.
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "Kwikon"
Gee Vee—see Gillette-Vibber Co.
Gem—see Jefferson Electric Co.

General Electric Co., Bridgeport, Conn.
Cataloged on page 65

Gillette-Vibber Co., 34 Maple Ave., New London, Conn. "Clipit" "Gee Vee"

Green, R. H., 1201 24th St., Oakland, Cal.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem"

Kwikon—see Fralick & Co.

Mefco—see Flaherty Co.

Merwin Mfg. Co., 19th & German Sts., Erie, Pa.

Mid-West Metal Products Co., Second & Pierce Sts., Muncie, Ind.

Midwest Electric Co., 1639 Walnut St., Chicago, Ill.

Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill.

Multi Electrical Mfg. Co., 1848 W. 14th St., Chicago, Ill.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

Paine Co., 2951 Carroll Ave., Chicago, Ill.

Phelps Mfg. Co., C. & N. W. Depot, Geneva, Ill.

Pittsburgh Valve & Fittings Co., Barberton, Ohio

Rattan Mfg. Co., 552 State St., New Haven, Conn.

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

T & B—see Thomas & Betts Co.

Thomas & Betts Co., 15 Park Pl., New York, N. Y. "Buck" "T & B"

V. V. Fittings Co., 715 Cherry St., Philadelphia, Pa.

Wall Mfg. Supply Co., P., 3166 Prebl Ave., N. S., Pittsburgh, Pa.
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STRAPS, Outlet Box—
see **Hangers,** Outlet Box

STRAPS, Safety—
see **Belts,** Lineman's

STREET LIGHTING—
see **Fixtures,** Street Lighting Pole Bracket
also **Switches,** Lamp Suspension

STRIP, Fuse—
see **Wire and Strip,** Fuse

STRIP LIGHTS—
see **Fixtures,** Stage Lighting

STRIP, Rubber—
see **Rubber,** Hard

STRIP SOLDER—
see **Solder**

STRIP TYPE HEATERS—
see **Heaters,** Industrial Space

STRIPPERS, Insulation—
see **Machines,** Wire End Stripping
also **Tools,** Wire Stripping

STRIPS, Resistance—
see **Wire,** Bare Resistance

STRIPS, Terminal
Small Strips of Insulating Material Carrying a number of Metallic Terminals; for Terminal Blocks—see Blocks, Terminal; for Binding Posts—see Posts, Binding

Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.

Charmond Electric Corp., 30 Church St., New York, N. Y.

Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Stanley & Patterson, 150 Varick St., New York, N. Y.

STUDS, Fixture
Hickey Studs and Crowfeet for Supporting Fixtures from Outlet Boxes; for Fixture Hickeys—see Hickeys, Fixture Hanging

American Circular Loom Co., 90 West St., New York, N. Y.

Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.

Bonnell Electric Mfg. Co., 194 Chambers St., New York, N. Y.

C. S. T.—see Chicago Steel Tank Co.

Chicago Steel Tank Co., 6400 W. 66th St., Chicago, Ill. "C. S. T."

Davis Electric Co., A. P., 334 N. Front St., Baltimore, Md.

Dunlap Co., John, Carnegie, Pa.

Faries Mfg. Co., 1036 E. Grand Ave., Decatur, Ill.

Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"

Fralick & Co., S. R., 15 S. Clinton St., Chicago, Ill. "No-Bolt"

Gem—see Jefferson Electric Co.

General Electric Co., Bridgeport, Conn.
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Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Gem"

Knight Co., J. G., 32 Morton St., Brooklyn, N. Y.

Liberty Machine Co., Wauwatosa, Wis.

M. S. W. Mfg. Co., 1529 Niagara St., Buffalo, N. Y.

Mefco—see Flaherty Co.

Midwest Electric Co., 1639 Walnut St., Chicago, Ill.

Murlin Mfg. Co., 54th & Paschall Ave., Philadelphia, Pa.

National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

No-Bolt—see Fralick & Co.

Pittsburgh Valve & Fittings Co., Barberton, Ohio

Raco—see Roach-Appleton Mfg. Co.

Rattan Mfg. Co., 552 State St., New Haven, Conn.

Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"

Star—see Steel City Electric Co.

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Star"

T & B—see Thomas & Betts Co.

Taplet Mfg. Co., 3911 Powelton Ave., Philadelphia, Pa.
Cataloged on page 52

Thomas & Betts Co., 15 Park Pl., New York, N. Y. "T & B"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SUBMARINE CABLE—
see **Cable,** Armored Submarine

SUBURBAN CABLE—
see **Cable,** Armored Park

SUCTION CLEANERS—
see **Blowers,** Electric Portable
also **Cleaners,** Portable Vacuum

SULPHURIC ACID—
see **Acid,** Sulphuric

SUPERVISORY RELAYS—
see **Relays,** Current Control

SUPPORTS, Adjustable Insulator
Malleable Iron Fittings for Clamping to Structural Steel, etc., to support Knobs, Cleats or other Insulators

Bull Dog—see **Fullman Mfg. Co.**

Delta-Star Electric Co., 2400 Block, Fulton St., Chicago, Ill.

Erie—see Keystone-State Products Corp., Blairsville, Pa. "Erie"

Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa. "Bull Dog"
Cataloged on page 50

General Devices & Fittings Co., 1450 Buchannan Ave., S. W., Grand Rapids, Mich.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Keystone-State Products Corp., Blairsvilla, Pa. "Erie"

Memco Engineering & Mfg. Co., 79 Freeman St., Long Island City, N. Y.

Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa.

SUPPORTS, Insulator—
see **Supports,** Adjustable Insulator

SURFACERS, Floor—
see **Machines,** Floor Finishing

SURFACING MACHINES—
see **Machines,** Floor Finishing
also **Sanders,** Electric Hand

SWINGING KNOB FIXTURES—
see **Insulators,** Tree

SWITCH BASES—
see **Receptacles,** Metal Shell
also **Receptacles,** Porcelain

SWITCH BODIES—
see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

SWITCH BOX BRACKETS—
see **Hangers,** Outlet Box

SWITCH BOXES—
see **Boxes,** Outlet and Switch
also **Boxes,** Watertight Outlet and Switch

SWITCH CAPS—
see **Sockets,** Composition
also **Sockets,** Metal Shell
also **Sockets,** Porcelain

SWITCH PLATES, Flush—
see **Plates,** Flush Switch and Outlet

SWITCH PLATES, Glass—
see **Plates,** Flush Switch and Outlet

SWITCHBOARD AMMETERS—
see **Ammeters and Voltmeters,** Switchboard Type

SWITCHBOARD ASBESTOS—
see **Asbestos,** Sheet

SWITCHBOARD MARBLE—
see **Marble,** Barrier and Slab

SWITCHBOARD METERS—
see **Ammeters and Voltmeters,** Switchboard Type

SWITCHBOARD SLATE—
see **Slate,** Barrier and Slab

SWITCHBOARD SOAPSTONE—
see **Soapstone,** Barrier and Slab

SWITCHBOARD STRUCTURE FITTINGS—
see **Fittings,** Pipe Structure

SWITCHBOARD VOLTMETERS—
see **Ammeters and Voltmeters,** Switchboard Type

SWITCHBOARD WIRE—
see **Wire.** Asbestos Covered

SWITCHBOARDS, Builders of
Contracting Companies equipped to construct Switchboards in accordance with Plans and Specifications

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo. "FA"
Cataloged on page 74

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.

American Electric Switch Co., Minerva, Ohio

American Switchboard Co., Camden, N. J.

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 111

Berthold Electric Co., Gus. 555 W. Monroe St., Chicago, Ill. "Selectro-lite"

Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.

Carleton-Mace Engineering Corp., 10 High St., Boston, Mass.

Circle T—see Trumbull Electric Mfg. Co.

Cleveland Switchboard Co., 2925 E. 79th St., Cleveland, Ohio

Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

Drendell Electrical & Mfg. Co., 1760 Howard St., San Francisco, Cal.

Electric Apparatus Co., 702 N. Halsted St., Chicago, Ill.

Electric Panelboard Co., 426 Exchange St., Rochester, N. Y.

Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"

Elpeco—see Electric Power Equipment Corp.

Empire Switchboard Co., Fourth Ave. & 28th St., Brooklyn, N. Y.

FA—see Adam Electric Co.

Fouch Electric Mfg. Co., 105 N. Ninth St., Portland, Ore.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hub Electric Co., 2219 W. Grand Ave., Chicago, Ill.

Ideal Electric & Mfg. Co., Mansfield, Ohio

I-T-E-Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.
Cataloged on page 76

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Laganke Electric Co., 2400 Woodland Ave., Cleveland, Ohio

Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio

Lexington Electric Products Co., 207 E. 43d St., New York, N. Y.

Marquette Electric Switchboard Co., 222 W. Austin Ave., Chicago, Ill.

Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Milwaukee Electric Switchboard Co., 156 Clinton St., Milwaukee, Wis.

Penn Electrical Co., Irwin, Pa.

Pittsburgh Electrical & Machine Works, 3 Barker Pl., Pittsburgh, Pa.

Plainville Electrical Products Co., Plainville, Conn.

Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.

Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio

Robertson Electric Construction Co., 126 S. Elmwood Ave., Buffalo, N. Y.

Royal Switchboard Co., 542 W. 22d St., New York, N. Y.

Selectro-lite—see Berthold Electric Co.

Spero Electric Mfg. Co., E. 33d St. & Woodland Ave., Cleveland, Ohio

Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127

Superior Switchboard & Devices Co., 424 Schroyer Ave., S. W., Canton, Ohio

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Walker Switchboard Co., 1020 W. Susquehanna Ave., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Wisconsin Electrical Mfg. Co., 1031 Clybourn St., Milwaukee, Wis.

Wolfe & Mann Mfg. Co., 320 Hanover St., Baltimore, Md.

Wurdack Electric Mfg. Co., Wm., 4444 Clayton Ave., St. Louis, Mo.

SWITCHES, Air Flow Controlled
Switches operated by the Velocity of a Current of Air

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.

SWITCHES, Ammeter
Instrument Switches for Board Mounting; for Voltmeter Plugs and Receptacles—see Plugs and Receptacles, Voltmeter

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.

Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.

Electric Power Equipment Corp., 412 N. 18th St., Philadelphia, Pa. "Elpeco"

Elpeco—see Electric Power Equipment Corp.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Memco Engineering & Mfg. Co., 79 Freeman St., Long Island City, N. Y.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Appliance Plug—
see **Plugs,** Appliance Connector

SWITCHES, Automatic Door—
see **Switches,** Door Flush

SWITCHES, Baby Knife
Miniature Knife Switches, Single and Multi-Pole Types

A & W—see Armstrong & White

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H" "Paiste"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 60

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Fahnestock Electric Co., East Ave. & Eighth St., Long Island City, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.

H & H—see Arrow-Hart & Hegeman Electric Co.

Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Sensory"

K-C—see King Mfg. Co.

King Mfg. Co., B. C., 302 Park Ave., Brooklyn, N. Y. "K-C"

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Morse Co., Frank W., 289 Congress St., Boston, Mass.

Paiste—see Arrow-Hart & Hegeman Electric Co.

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Sensory—see Heinemann Electric Co.

Stern-Brown, 257 W. 17th St., New York, N. Y.

Tecco—see Meteor Electric Corp.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Trumbull-Vanderpoel Electric Mfg. Co., Bantam, Conn.

SWITCHES, Burglar Alarm
Door Trips, Floor Treads, Contact Matting, etc., for use in Burglar Alarm Systems

Cleverly Electrical Works, 17 N. Seventh St., Philadelphia, Pa.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Faraday—see Stanley & Patterson

General Electric Co., 1 River Rd., Schenectady, N. Y.

Midnight Alarm System, 2327 Chickasaw St., Cincinnati, Ohio

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Stairway Switch Co., 235 Brookdale Ave., Glenside, Pa.

Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"

SWITCHES, Candelabra—
see **Switches,** Fixture

SWITCHES, Canopy—
see **Switches,** Fixture

SWITCHES, Ceiling Pull
Cord or Pull Chain Operated Switches for Ceiling and Wall Mounting; for Switches for Canopy Mounting—see Switches, Fixture

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Cataloged on page 56

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Perkins—see Bryant Electric Co.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Weber Electric Co.—see Sears, Henry D.

SWITCHES, Channel—
see **Boxes,** Meter Service

SWITCHES, Circuit Breaker Type
Laminated Bridge Type with Auxiliary Carbon Contacts

General Electric Co., 1 River Rd., Schenectady, N. Y.

I-T-E-Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Clock Controlled

Switches operated by a Clock with Spring Motor or Synchronous Electric Motor

Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.

Astrachron—see Gem Engineering Corp.

Automatic Electric Mfg. Co. — see Kato Engineering Co.

Automatic Lighting Co., 831 Greenmount Ave., Baltimore, Md. "Welsbach"

Berry, A. Hall, 71 Murray St., New York, N. Y. (Sole Distributors for Hartford Time Switch Co., Bridgeport, Conn.) "Cackle"

Buckeye Time Switches, Inc., 1557 St. Clair Ave., N. E., Cleveland, Ohio

Cackle—see Berry, A. Hall

Campbell Electric Mfg. Co., 19 Stewart St., Lynn, Mass.

Cramer & Co., R. W., 136 Liberty St., New York, N. Y. (Importer for F. Sauter, Switzerland)
Cataloged on pages 78-79

Diamond H—see Hart Mfg. Co.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Eureka Tool & Machine Co., 42 Walnut St., Newark, N. J.

Gem Engineering Corp., Hempstead, N. Y. "Astrachron"

General Electric Co., 1 River Rd., Schenectady, N. Y.
Cataloged on page 91

Gilson Co., J. E., Port Washington, Wis. "Never Fail"

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Hartford Time Switch Co —see Berry, A. Hall

Horolectrical Corp., 9 Desbrosses St., New York, N. Y.

Hotpoint—see Edison General Electric Appliance Co.

Kato Engineering Co., 727 S. Front St., Mankato, Minn. (Sole Distributors for Automatic Electric Mfg. Co., Mankato, Minn.)

Meyer Mfg. Co., 5123 Telephone Rd., Houston, Tex.

Never Fail—see Gilson Co.

Paragon Electric Co., 37 W. Van Buren St., Chicago, Ill.

Racine—see Reliance Automatic Lighting Co.

Reliance Automatic Lighting Co., 1931 Mead St., Racine, Wis. "Racine"
Cataloged on page 80

Robbins & Myers, 1345 Lagonda Ave., Springfield, Ohio

Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.

States Co., 17 New Park Ave., Hartford, Conn.

Stromberg Electric Co., 233 W. Erie St., Chicago, Ill.

Sundh Electric Co., 5 Ave. C, Newark, N. J.

Thermogray Co., Jefferson, Iowa

Tork Clocks, Inc., 12 E. 41st St., New York, N. Y.

Walser Automatic Timer Co., 342 Madison Ave., New York, N. Y.
Cataloged on page 81

Welsbach—see Automatic Lighting Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Zenith Electric Co., 537 S. Dearborn St., Chicago, Ill.

SWITCHES, Coin Operated

Time Switches that are Closed by Inserting a Coin and that Open Automatically; for Coin Operated Appliances —see under the Appliance wanted

Coin Switch Co., Bancroft, Idaho

SWITCHES, Combined Circuit Breaker and Starting

Low Voltage Switches for use on Motor Driven Appliances

Ahlers, Bruno H., 8526 89th St., Woodhaven, N. Y. "Little Automatic"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

C-H—see Cutler-Hammer

Circle T—see Trumbull Electric Mfg. Co.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Domestic Electric Co., Kent, Ohio

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Heco—see Heinemann Electric Co.

Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Heco"

Little Automatic—see Ahlers, Bruno H.

Maple Co., R. H., 3156 Ruckle St., Indianapolis, Ind.

Sentinel—see Westinghouse Electric & Mfg. Co.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Sentinel"
Cataloged on page 97

SWITCHES, Cord

Switches for Mounting on Portable or Pendent Cords; for Appliance Plugs with Switches—see Plugs, Appliance Connector

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
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Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Franklin, Inc., A. W., 11 W. 42d St., New York, N. Y.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Perkins—see Bryant Electric Co.

Propp Co., M., 524 Broadway, New York, N. Y.

Reynolds Spring Co., Jackson, Mich. "Reynolite"

Reynolite—see Reynolds Spring Co.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Smith & Co., T. C., 3915 Powelton Ave. Philadelphia, Pa.

Weber Electric Co.—see Sears, Henry D.

SWITCHES, Dead Front Lever

Lever Operated Switches for use on Dead Front Switchboards

General Electric Co., 1 River Rd., Schenectady, N. Y.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Delayed Extinguishment

Switches equipped with a Retarding Mechanism

Rhodes, Inc., M. H., 40 Wall St., New Haven, Conn.

SWITCHES, Door Flush

Lighting Switches designed to be operated by the Opening and Closing of a Door

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"

C-H—see Cutler-Hammer

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Perkins—see Bryant Electric Co.

SWITCHES, Door Lock Controlled

Lighting Switches designed to be Operated by the Throwing of the Door Bolt

Diamond H—see Hart Mfg. Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

SWITCHES, Feed Through—

see **Switches,** Cord

SWITCHES, Field Discharge Circuit Breaker Type

Laminated Bridge Type Switches Arranged to discharge Generator field when opened—see also Switches, Standard Knife

General Electric Co., 1 River Rd., Schenectady, N. Y.

I-T-E-Circuit Breaker Co., 19th & Hamilton Sts., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Fixture

Pull Push and Pull Chain Types of Switches for Mounting in Fixture Assembly

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Beaver Mfg. Co., 625 N. Third St., Newark, N. J.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 60

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

H & H—see Arrow-Hart & Hegeman Electric Co.

Klous Electric Co., E. J., 120 High St., Boston, Mass.

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Levolier—see McGill Mfg. Co.

McGill Mfg. Co., Valparaiso, Ind. "Levolier" "Twi-Lite"

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.

Rodale Mfg. Co., 200 Hudson St., New York, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Twi-Lite—see McGill Mfg. Co.

Weber Electric Co.—see Sears, Henry D.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Float—

see **Switches,** Float Operated

SWITCHES, Float Operated

For Automatically Controlling the Pump Power Circuit or to operate Telltales on Tanks

Blackburn-Smith Corp., 25 W. 45th St., New York, N. Y.

C-H—see Cutler-Hammer

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Penn Electric Switch Co., 12th & Walnut Sts., Des Moines, Iowa

Roberts & Kanze, 240 W. 25th St., New York, N. Y.

Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.

Square D Co., 6060 Rivard St., Detroit, Mich.

Stanley & Patterson, 150 Varick St., New York, N. Y.

Sundh Electric Co., 5 Ave. C, Newark, N. J.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Flush Push

One Button and Two Button Flush Push Switches; for Momentary Contact Switches—see Switches, Momentary Contact

Arro-Art—see Arrow-Hart & Hegeman Electric Co.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Arro-Art" "H & H"

Benjamin Electric Mfg. Co., Des Plaines, Ill.

Bremer Electric Mfg. Co., 139 N. Seventh St., Philadelphia, Pa.

Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 59

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

General Electric Co., Bridgeport, Conn.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Keil & Son, Francis, 401 E. 163d St., New York, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

New England—see Paulding, Inc.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass. "New England"

Perkins—see Bryant Electric Co.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Standard Electric Mfg. Co., 925 Wrightwood Ave., Chicago, Ill.

Tecco—see Meteor Electric Corp.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.

Weber Electric Co.—see Sears, Henry D.

SWITCHES, Flush Toggle

Snap Switches Operated with a Toggle or Tumbler

Arro-Art—see Arrow-Hart & Hegeman Electric Co.

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Arro-Art" "H & H"

Bremer Electric Mfg. Co., 139 N. Seventh St., Philadelphia, Pa.

Bridgeport Switch Co., 209 Center St., Bridgeport, Conn.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Cataloged on pages 55-56

C-H—see Cutler-Hammer

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on pages 59-60

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.

General Electric Co., Bridgeport, Conn.
Cataloged on page 63

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.

Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

New England—see Paulding, Inc.

P & S—see Pass & Seymour

Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"

Paulding, Inc., John I., (Acushnet) New Bedford, Mass. "New England"

Pilot Electric Mfg. Co., 323 Berry St., Brooklyn, N. Y.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Standard Electric Mfg. Co., 925 Wrightwood Ave., Chicago, Ill.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Weber Electric Co.—see Sears, Henry D.

SWITCHES, Fused Blade Knife

Knife Switches having Cartridge Fuses used as Switch Blades

Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio

SWITCHES, Fused Entrance

Switches provided with Fuse Extensions—see also Boxes, Meter Service; for Panel Switches—see Switches, Panel

A & W—see Armstrong & White

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.

Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"

Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 63

Circle T—see Trumbull Electric Mfg. Co.

Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.

Heco—see Heinemann Electric Co.

Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Heco"

Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.

Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"

Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y.

Paiste—see Arrow-Hart & Hegeman Electric Co.

Paulding, Inc., John I., (Acushnet) New Bedford, Mass.

Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)

Tecco—see Meteor Electric Corp.

Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"

Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.

Weber Electric Co.—see Sears, Henry D.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Heat Controlled —

see **Switches,** Thermostat Controlled

SWITCHES, Heater—

see **Switches,** Series Multiple Snap
also **Switches,** Thermostat Controlled

SWITCHES, High Tension Lever—

see **Switches,** Dead Front Lever

SWITCHES, Indicating—

see **Switches,** Flush Push
also **Switches,** Flush Toggle
also **Switches,** Rotary Flush
also **Switches,** Series Multiple Snap
also **Switches,** Surface Snap
see also **Receptacles,** Indicating

SWITCHES, Instrument—

see **Plugs and Receptacles,** Pin
also **Plugs and Receptacles,** Voltmeter

SWITCHES, Key Operated

Switches that can be operated only with the Proper Key; for Key operated Flush Push Switches — see Switches, Flush Push

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Bryant Electric Co., 1421 State St., Bridgeport, Conn.

Bunnell & Co., J. H., 32 Park Pl., New York, N. Y.

Cory & Son, Chas., 183 Varick St., New York, N. Y. "Robinson"

Diamond H—see Hart Mfg. Co.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

H & H—see Arrow-Hart & Hegeman Electric Co.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Ostrander Electric Works, W. R., 913 Atlantic Ave., Brooklyn, N. Y.

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Robinson—see Cory & Son

SWITCHES, Knife—

see **Switches,** Baby Knife
also **Switches,** Fused Blade Knife
also **Switches,** Fused Entrance
also **Switches,** Panel
also **Switches,** Quick Break Knife
also **Switches,** Safety
also **Switches,** Standard Knife

SWITCHES, Lamp Suspension

Automatic Switches operated by Lowering the Fixtures

Thompson Electric Co., 1438 W. Ninth St., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Lever—

see **Switches,** Dead Front Lever
also **Switches,** Flush Toggle
also **Switches,** Limit

SWITCHES, Limit

Lever Operated Switches for Mounting in Hoistways or Elevators, etc.

Acme—see Co-Operative Utilities Co.
Atlantic Co., 452 Classon Ave., Brooklyn, N. Y.
C-H—see Cutler-Hammer
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Co-Operative Utilities Co., 1503 Columbia Ave., Philadelphia, Pa. "Acme"
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Dunco—see Dunn, Inc., Struthers
Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.
Payne Co., F. S., 75 Richdale Ave., Cambridge, Mass.
South Bend Current Controller Co., 247 Laporte Ave., South Bend, Ind.
Square D Co., 6060 Rivard St., Detroit, Mich.
Takamime Corp., 35-10 36th Ave., Long Island City, N. Y.

SWITCHES, Low Tension Disconnect—

see **Switches,** Circuit Breaker Type

SWITCHES, Magnetic

Remote Control Switches and Contactors Operated by a Low Voltage Current; for Signal Relays—see Relays, Signal; for Solenoid Operated Circuit Breakers—see Breakers, Air Circuit—also Breakers, Oil Circuit

Allen-Bradley Co., 494 Reed St., Milwaukee, Wis.
Automatic Electric Mfg. Co.—see Kato Engineering Co.
Automatic Reclosing Circuit Breaker Co., Sixth St. & Indianola Ave., Columbus, Ohio
Automatic Switch Co., 154 Grand St., New York, N. Y. "Darrin"
C-H—see Cutler-Hammer
Circle T—see Trumbull Electric Mfg. Co.
Clark Controller Co., 1146 E. 152d St., Cleveland, Ohio
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Darrin—see Automatic Switch Co.
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Diamond H—see Hart Mfg. Co.
Dunco—see Dunn, Inc., Struthers
Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on pages 72-73
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Kato Engineering Co., 727 S. Front St., Mankato, Minn. (Sole Distributors for Automatic Electric Mfg. Co., Mankato, Minn.)
Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.
Palmer Electric & Mfg. Co., Pond & Exchange Sts., Waltham, Mass.
Rowan Controller Co., 306 N. Holliday St., Baltimore, Md.
Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.
South Bend Current Controller Co., 247 Laporte Ave., South Bend, Ind.
Square D Co., 6060 Rivard St., Detroit, Mich.
Sundh Electric Co., 5 Ave. C, Newark, N. J.
Takamine Corp., 35-10 36th Ave., Long Island City, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Western Electro-Mechanical Co., 131 Broadway, Oakland, Cal.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Zenith Electric Co., 537 S. Dearborn St., Chicago, Ill.

SWITCHES, Mercury Contact—

see **Tubes,** Mercury Contact

SWITCHES, Meter Service—

see **Boxes,** Meter Service

SWITCHES, Meter Test—

see **Instruments,** Meter Testing

SWITCHES, Momentary Contact

For use on Remote Control Circuits; for Push Buttons to operate Bells or Buzzers—see Buttons, Flush Push

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
C-H—see Cutler-Hammer
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Diamond H—see Hart Mfg. Co.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hart Mfg. Co., Hartford, Conn. "Diamond H"

SWITCHES, Motor Starting—

see **Controllers,** Automatic Motor
also **Controllers,** Manual Motor
also **Switches,** Safety

SWITCHES, Panel

Switches designed for Mounting on Bus-Bar Extensions and provided with Fuse Extensions; for Entrance Switches—see Switches, Fused Entrance

A & W—see Armstrong & White
Armstrong & White, Ninth St. & Liberty Ave., Pittsburgh, Pa. "A & W"
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 60
Circle T—see Trumbull Electric Mfg. Co.
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
General Electric Co., 1 River Rd., Schenectady, N. Y.; also Bridgeport, Conn.
Heco—see Heinemann Electric Co.
Heinemann Electric Co., Pennsylvania Ave. & Plum St., Trenton, N. J. "Heco"
Leviton Mfg. Co., 226 Newell St., Brooklyn, N. Y.
Meteor Electric Corp., 132 Lafayette St., New York, N. Y. "Tecco"
Paiste—see Arrow-Hart & Hegeman Electric Co.
Tecco—see Meteor Electric Corp.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SWITCHES, Pendent—

see **Switches,** Cord

SWITCHES, Pressure Operated

Automatic Switches Operated by Movment of a Diaphragm

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
Bristol Co., Waterbury, Conn.
C-H—see Cutler-Hammer
Cory & Son, Chas., 183 Varick St., New York, N. Y.
Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"
Diamond H—see Hart Mfg. Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Mercoid Corp., 564 W. Adams St., Chicago, Ill.
Miles Engineering Co., 1236 Granville Ave., Chicago, Ill.
Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.
Penn Electric Switch Co., 12th & Walnut Sts., Des Moines, Iowa
Sundh Electric Co., 5 Ave. C, Newark, N. J.
Time-O-Stat Controls Co., Elkhart, Ind.
Warren Electric Appliance Co., 809 Lexington Ave., Warren, Pa. "WEACO"
WEACO—see Warren Electric Appliance Co.

SWITCHES, Pull—

see **Switches,** Ceiling Pull

SWITCHES, Push—

see **Switches,** Cord
also **Switches,** Flush Push
also **Switches,** Momentary Contact

SWITCHES, Push Through—

see **Switches,** Cord

SWITCHES, Quick Break Knife

Switches with Small Auxiliary Blades under Spring Tension

Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo.
Anderson Mfg. Co., Albert & J. M., 305 A St., Boston, Mass.
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio
Circle T—see Trumbull Electric Mfg. Co.
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.

SWITCHES, Quick Break Knife (Continued)

General Electric Co., 1 River Rd., Schenectady, N. Y.
Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio
Lyons Mfg. Co., (Mt. Carmel) New Haven, Conn.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 99

SWITCHES, Range—

see **Switches,** Series Multiple Snap

SWITCHES, Relay—

see **Relays,** Signal

SWITCHES, Relay Test—

see **Instruments,** Meter Testing

SWITCHES, Remote Control—

see **Switches,** Magnetic

SWITCHES, Rotary Flush

Flush Mounted Rotary Snap Switches; for Surface Snap Switches — see Switches, Surface Snap

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Diamond H—see Hart Mfg. Co.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Perkins—see Bryant Electric Co.

SWITCHES, Safety

Completely Enclosed, Externally Operated Knife Switches

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.
All-Steel-Equip Co., Aurora, Ill.
American Electric Switch Co., Minerva, Ohio
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Aurora Steel Products Co., Aurora, Ill.
Automatic Reclosing Circuit Breaker Co., Sixth St., & Indianola Ave., Columbus, Ohio
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.
Circle T—see Trumbull Electric Mfg. Co.
Colt's Patent Fire Arms Mfg. Co., 17 Van Dyck Ave., Hartford, Conn. "Noark"
Columbia Metal Box Co., 260 E. 143d St., New York, N. Y.
Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Federal Steel Products Co., 2 Ave. L, Newark, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Wholesalers)
Cataloged on page 87
Hubbell, Inc., Harvey, State St. & Bostwick Ave., Bridgeport, Conn.
Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio
Metropolitan Device Corp., 1250 Atlantic Ave., Brooklyn, N. Y. "Unisafti"
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Meyers Safety Switch Co., 419 Tehama St., San Francisco, Cal.
Noark—see Colt's Patent Fire Arms Mfg. Co.
Palmer Electric & Mfg. Co., Pond & Exchange Sts., Waltham, Mass.
Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio
R-C—see Robertson Electric Construction Co.
Robertson Electric Construction Co., 126 S. Elmwood Ave., Buffalo, N. Y. "R-C"
Square D Co., 6060 Rivard St., Detroit, Mich.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Trumbull-Vanderpoel Electric Mfg. Co., Bantam, Conn.
Unisafti—see Metropolitan Device Corp.
Universal Metal Box & Products Co., 144 Bleecker St., Newark, N. J.
V. V. Fittings Co., 715 Cherry St., Philadelphia, Pa.
Wadsworth Electric Mfg. Co., 20 W. 11th St., Covington, Ky.
Cataloged on page 82
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 98

SWITCHES, Series Multiple Snap

Snap Switches designed for use on Heating Units having two or more Elements; for Standard Snap Switches — see Switches, Surface Snap

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Cataloged on page 56
Diamond H—see Hart Mfg. Co.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Perkins—see Bryant Electric Co.

SWITCHES, Service Entrance—

see **Boxes,** Meter Service
also **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

SWITCHES, Snap—

see **Switches,** Ceiling Pull
also **Switches,** Cord
also **Switches,** Door Flush
also **Switches,** Fixture
also **Switches,** Flush Push
also **Switches,** Flush Toggle
also **Switches,** Rotary Flush
also **Switches,** Series Multiple Snap
also **Switches,** Surface Snap

SWITCHES, Solenoid Operated—

see **Switches,** Magnetic

SWITCHES, Stair Tread Controlled

Lighting Switch Automatically Operated by Stepping on Stair Tread

Stairway Switch Co., 235 Brookdale Ave., Glenside, Pa.

SWITCHES, Standard Knife

Single and Multi-Pole Knife Switches; for Baby Knife Switches—see Switches, Baby Knife

A. G. Electric Mfg. Co., 303 W. Hudson St., Seattle, Wash.
Adam Electric Co., Frank, 3650 Windsor Pl., St. Louis, Mo.
Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "Paiste"
Barber Electric Mfg. Co., 30 Chestnut St., North Attleboro, Mass.
Barkelew Electric Mfg. Co., 1905 Columbia Ave., Middletown, Ohio
Bridgeport Switch Co., 209 Center St., Bridgeport, Conn.
Bryant Electric Co., 1421 State St., Bridgeport, Conn.
Bull Dog Electric Products Co., 7610 Jos. Campau Ave., Detroit, Mich.
Circle T—see Trumbull Electric Mfg. Co.
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Crouse-Hinds Co., Wolf & Seventh North Sts., Syracuse, N. Y.
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland, Ohio
Empire Switchboard Co., Fourth Ave. & 28th St., Brooklyn, N. Y.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Laganke Electric Co., 2400 Woodland Ave., Cleveland, Ohio
Leonard Electric Mfg. Co., 3907 Perkins Ave., Cleveland, Ohio
Lexington Electric Products Co., 207 E. 43d St., New York, N. Y.
Lyons Mfg. Co., (Mt. Carmel) New Haven, Conn.
Mendell Electric Mfg. Co., Main St., Mattapoisett, Mass.
Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.
Paiste—see Arrow-Hart & Hegeman Electric Co.
Penn Electrical Co., Irwin, Pa.
Pittsburgh Electrical & Machine Works, 3 Barker Pl., Pittsburgh, Pa.
Plainville Electrical Products Co., Plainville, Conn.
Porcelain Products, Inc., Findlay, Ohio
Powerlite Switchboard Co., 4149 E. 79th St., Cleveland, Ohio
Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.
Safelock—see Westinghouse Electric & Mfg. Co.
Thoner & Martens, 463 Commercial St., Boston, Mass.
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. "Safelock"
Cataloged on page 99

SWITCHES, Surface Snap

Single and Double Pole Snap Switches; for Series Multiple Heater Switches—see Switches, Series Multiple Snap

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Bryant Electric Co., 1421 State St., Bridgeport, Conn. "Perkins"
Cataloged on page 56
Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Cataloged on page 60
Circle T—see Trumbull Electric Mfg. Co.
Connecticut Electric Mfg. Co., Connecticut Ave., Bridgeport, Conn.
Diamond H—see Hart Mfg. Co.
General Electric Co., Bridgeport, Conn.
H & H—see Arrow-Hart & Hegeman Electric Co.
Hart Mfg. Co., Hartford, Conn. "Diamond H"
Hubbell, Inc., Harvey, State St., & Bostwick Ave., Bridgeport, Conn.
Monowatt Electric Corp., 24 W. 40th St., New York, N. Y.
National—see Standard Electric Mfg. Co.
P & S—see Pass & Seymour
Pass & Seymour, Inc., Solvay Station, Syracuse, N. Y. "P & S"
Perkins—see Bryant Electric Co.
Sears, Henry D., 80 Boylston St., Boston, Mass. (Sole Distributors for Weber Electric Co., Schenectady, N. Y.)
Standard Electric Mfg. Co., 925 Wrightwood Ave., Chicago, Ill. "National"
Trumbull Electric Mfg. Co., Plainville, Conn. "Circle T"
Ward Electric Co., 112 S. 16th St., Philadelphia, Pa.
Weber Electric Co.—see Sears, Henry D.

SWITCHES, Tank—
see **Switches,** Float Operated

SWITCHES, Telephone Booth—
see **Switches,** Door Flush

SWITCHES, Thermostat Controlled
Temperature Operated Switch and Control Units, Liquid, Gas and Metal Types; for Furnace Regulators—see Regulators, Furnace Temperature

American Thermostat Co., 226 Jelliff Ave., Newark, N. J.

Atmo Automatic Fire Alarm Co., 175 Centre St., Nutley, N. J.

Automatic Appliance Co., Jackson, Mich.

Automatic Reclosing Circuit Breaker Co., Sixth St., & Indianola Ave., Columbus, Ohio. "Ranco"

Bristol Co., Waterbury, Conn.

Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa.

C-H—see Cutler-Hammer

Ceaco—see Cobb Electric Appliance Co.

Cobb Electric Appliance Co., 29 Lanesville Terrace, (Forest Hills) Boston, Mass. "Ceaco"

Coffin Mfg. Co., B. F., 30 Court St., Newark, N. J.

Cutler-Hammer, Inc., 1215 St. Paul Ave., Milwaukee, Wis. "C-H"

Diamond H—see Hart Mfg. Co.

Dunco—see Dunn, Inc., Struthers

Dunn, Inc., Struthers, 137 Juniper St., Philadelphia, Pa. "Dunco"
Cataloged on page 72

Evenheeter—see Time-O-Stat Controls Co.

Everhot Electric & Mfg. Co., 116 Llewellyn St., Los Angeles, Cal.

Hart Mfg. Co., Hartford, Conn. "Diamond H"

Johnson Service Co., 149 Michigan Ave., Milwaukee, Wis.

Mercoid Corp., 564 W. Adams St., Chicago, Ill.

Miles Engineering Co., 1236 Granville Ave., Chicago, Ill.

Minneapolis - Honeywell Regulator Co., Wabash, Ind.

Powers Regulator Co., 2783 Greenview Ave., Chicago, Ill.

Ranco—see Automatic Reclosing Circuit Breaker Co.

Signal Engineering & Mfg. Co., 154 W. 14th St., New York, N. Y.

Spencer Thermostat Co., 292 Main St., Cambridge, Mass.

Tagliabue Mfg. Co., C. J., 32 33d St., Brooklyn, N. Y.

Taylor Instrument Companies, 95 Ames St., Rochester, N. Y. "Tycos"

Time-O-Stat Controls Co., Elkhart, Ind. "Evenheeter"

Trent Co., Harold E., 443 N. 12th St., Philadelphia, Pa.

Tycos—see Taylor Instrument Companies

Warren Electric Appliance Co., 809 Lexington Ave., Warren, Pa. "WEACO"

WEACO—see Warren Electric Appliance Co.

Wilcolator Co., 17 Nevada St., Newark, N. J.

SWITCHES, Transfer—
see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

SWITCHES, Tumbler—
see **Switches,** Flush Toggle

SWITCHES, Vacuum Operated—
see **Switches,** Pressure Operated

SWITCHES, Watertight
Covering only Companies Cataloging this Product

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Cataloged on page 110

SWITCHGEAR, Armorclad—
see **Switchboards,** Builders of

SWITCHGEAR, Automatic—
see **Switchboards,** Builders of

SYNCHRONIZING PLUG SWITCHES—
see **Plugs and Receptacles,** Voltmeter

SYNCHRONOUS CLOCKS—
see **Clocks,** Electric Master and Secondary

SYNCHRONOUS CONVERTERS—
see **Converters,** Synchronous

SYNCHRONOUS GENERATORS—
see **Generators,** A. C. Synchronous

SYNCHRONOUS MOTORS—
see **Motors,** A. C. Synchronous

SYRINGES, Acid—
see **Syringes,** Bulb

SYRINGES, Battery—
see **Hydrometers,** Battery Testing
also **Syringes,** Bulb

SYRINGES, Bulb
Acid or Battery Syringes; for Hydrometer Syringes—see Hydrometers, Battery Testing

Acid Supply Utilities, 316 W. 24th St., Chicago, Ill.

Ala Mfg. Co., 401 S. Sangamon St., Chicago, Ill.

Edelmann & Co., E., 2356 Logan Blvd., Chicago, Ill.

Esserman, Joseph, 243 W. 55th St., New York, N. Y.

Freas Glass Works, Francis L., Conshohocken, Pa.

Kwickwerk—see Scranton Glass Instrument Co.

Scranton Glass Instrument Co., 939 Capouse Ave., Scranton, Pa. "Kwickwerk"

Testrite Instrument Co., 108 E. 16th St., New York, N. Y.

Victor Instrument Mfg. Co., 49 W. 63d St., New York, N. Y.

SYRINGES, Hydrometer—
see **Hydrometers, Battery Testing**

SYSTEMS, Burglar Alarm—
see **Alarms,** Manual Burglar
also **Switches,** Burglar Alarm

SYSTEMS, Call Carriage—
see **Calls,** Carriage

SYSTEMS, Calling—
see **Boards,** Code Signaling
also **Signals,** Hospital Calling

SYSTEMS, Code Signaling—
see **Boards,** Code Signaling

SYSTEMS, Fire Alarm—
see **Boxes,** Fire Alarm

SYSTEMS, High and Low Water Alarm—
see **Switches,** Float Operated

SYSTEMS, Hospital Signal—
see **Annunciators,** Drop and Lamp
also **Signals,** Hospital Calling

SYSTEMS, Signaling—
see **Annunciators,** Drop and Lamp
also **Boards,** Code Signalling
also **Signals,** Hospital Calling

SYSTEMS, Water Supply—
see **Plants,** Electrically Operated Water Supply

TABLE LAMPS—
see **Lamps,** Residential Table or Desk

TABLE STOVES—
see **Plates,** Electric Hot
also **Stoves,** Electric Table

TABLE TAPS—
see **Cords,** Extension

TABLES, Electrically Heated Steam
Tables for Keeping Cooked Food Hot

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Appliance Mfg. Co., 52d & Centenial Blvd., Nashville, Tenn. "Lectric Mack"

Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Electro Products Co., 374 E. Oak St., Portland, Ore.

Everhot Electric & Mfg. Co., 116 Llewellyn St., Los Angeles, Cal.

Hot Quick—see Mabey Electric & Mfg. Co.

Hotpoint—see Edison General Electric Appliance Co.

Ideal—see Swartzbaugh Mfg. Co.

Lectric Mack—see Appliance Mfg. Co.

Mabey Electric & Mfg. Co., 968 Fort Wayne Ave., Indianapolis, Ind. "Hot Quick"

Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio. "Ideal"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TACHOMETERS, Centrifugal
Revolving Weight or Centrifugal Pump Type Instruments for Showing Speed of Revolution

American Hardware Corp., New Britain, Conn.

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Jagabi"

Coats Machine Tool Co., 110 W. 40th St., New York, N. Y.

Consolidated Instrument Co. of America, 305 E. 47th St., New York, N. Y. "Hasler"

Foxboro Co., Neponset Ave., Foxboro, Mass.

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Hasler—see Consolidated Instrument Co.

Jagabi—see Biddle, James G.

TACHOMETERS, Centrifugal (Continued)

Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa. "Princo"

Princo—see Precision Thermometer & Instrument Co.

Queen—see Gray Instrument Co.

Veeder-Root, Inc., 80 Sergeant St., Hartford, Conn.

Zernickow Co., O., 15 Park Row, New York, N. Y.

TACHOMETERS, Chronometric

Synchronized Clock and Geared Revolution Counters for Showing Speed of Revolution

Consolidated Instrument Co. of America, 305 E. 47th St., New York, N. Y. "Jones"

Elgin National Watch Co., 35 E. Wacker Dr., Chicago, Ill.

Jones—see Consolidated Instrument Co.

TACHOMETERS, Electric

Magneto Voltmeter Type Instruments for Showing Speed of Revolution

Bristol Co., Waterbury, Conn.

Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa.

Comet Electric Co., Union Trust Bldg., Indianapolis, Ind.

Electric Tachometer Corp., Broad & Spring Garden Sts., Philadelphia, Pa. "Tetco"

Gray Instrument Co., 70 W. Johnson St., (Germantown) Philadelphia, Pa. "Queen"

Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Queen—see Gray Instrument Co.

Tetco—see Electric Tachometer Corp.

Thwing Instrument Co., 3341 Lancaster Ave., Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

TACHOMETERS, Vibrating Reed

Vibrating Reed Type Instruments for Showing Speed of Revolution

Biddle, James G., 1211 Arch St., Philadelphia, Pa. "Frahm"

Frahm—see Biddle, James G.

TAILOR'S IRONS—

see **Irons,** Electric Tailor's

TAMPERS, Coil—

see **Tools,** Armature Repair

TAMPING BARS—

see **Bars,** Metal Tamping and Digging
also **Bars,** Wood Tamping

TANK ALARMS—

see **Switches,** Float Operated

TANK SWITCHES—

see **Switches,** Float Operated

TANKS, Deodorizing—

see **Machines,** Coil Impregnating

TANKS, Impregnating—

see **Machines,** Coil Impregnating

TANKS, Wire Drying—

see **Machines,** Coil Impregnating

TAPE, Cotton—

see **Tape and Sleeving,** Cotton

TAPE, Fish—

see **Wire,** Fish

TAPE, Friction

For Rubber Tape—see Tape, Rubber

Ackerman—see Ackurate Rubber Co.

Ackurate Rubber Co., 25 Beaver St., New York, N. Y. "Ackerman"

Appleton Rubber Co., Franklin, Mass. "O.K."

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Boston Woven Hose & Rubber Co., 29 Hampshire St., Cambridge, Mass. "Bull Dog"
Cataloged on page.....138

Bull Dog—see Boston Woven Hose & Rubber Co.

Canfield Rubber Co., Railroad Ave. & Garden St., Bridgeport, Conn. "Impervo"

Clifton Mfg. Co., 65 Brookside Ave., Boston, Mass.

Dexter Rubber Corp., 2 W. 45th St., New York, N. Y. "Stik-Rite"

Dundee—see Okonite Co.

Dutch Brand—see Van Cleef Bros.

Elkhart Rubber Works, Elkhart, Ind. "Hydro-Proof"

Firestone Tire & Rubber Co., 1289 S. Main St., Akron, Ohio

General Electric Co., Bridgeport, Conn.

Grimshaw—see New York Insulated Wire Co.

Holdtite—see United States Rubber Co.

Holfast Rubber Co., Lakewood Ave., Atlanta, Ga.

Hydro-Proof—see Elkhart Rubber Works

Impervo—see Canfield Rubber Co.

Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind.

Johns-Manville Corp., 292 Madison Ave., New York, N. Y. "Jomanco"

Jomanco—see Johns-Manville Corp.

Kerite Insulated Wire & Cable Co., 30 Church St., New York, N. Y.

Lavelle Rubber Co., 320 W. Illinois St., Chicago, Ill. "Mystic"

Manson—see Okonite Co.

Mechanical Rubber Co., 1790 Broadway, New York, N. Y.

Mica Insulator Co., 200 Varick St., New York, N. Y. "Mico"
Cataloged on page.....155

Mico—see Mica Insulator Co.

Mystic—see Lavelle Rubber Co.

New York Insulated Wire Co., 114 Liberty St., New York, N. Y. "Grimshaw"
Cataloged on page.....26

O. K.—see Appleton Rubber Co.

Okonite Co., Canal St., Passaic, N. J. "Dundee" "Manson"

P & B—see Ruberoid Co.

Plymouth Rubber Co., Canton, Mass. "Skipknot"

Red X Brand—see St. Louis Rubber Cement Co.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....42

Ruberoid Co., 95 Madison Ave., New York, N. Y. "P & B"

St. Louis Rubber Cement Co., 3951 Laclede Ave., St. Louis, Mo. "Red X Brand"

S I—see Superior Insulating Tape Co.

Skipknot—see Plymouth Rubber Co.

Stik-Rite—see Dexter Rubber Corp.

Superior Insulating Tape Co., 3100 Lambdin Ave., St. Louis, Mo. "S I"

US—see United States Rubber Co.

United States Rubber Co., 1794 Broadway, New York, N. Y. "Holdtite" "US"
Cataloged on page.....47

Van Cleef Bros., Woodlawn Ave. & 77th St., Chicago, Ill. "Dutch Brand"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TAPE, Insulating—

see **Tape,** Friction
also **Tape,** Rubber
also **Tape and Tubing,** Asbestos

TAPE, Linen—

see **Tape,** Varnished or Oiled
also **Tape and Sleeving,** Cotton

TAPE, Mica—

see **Tape,** Varnished or Oiled

TAPE, Oiled—

see **Tape,** Varnished or Oiled

TAPE, Paper—

see **Tape,** Varnished or Oiled

TAPE PULLERS—

see **Pullers,** Fish Tape

TAPE, Rubber

For Friction Tape—see Tape, Friction

Ackurate Rubber Co., 25 Beaver St., New York, N. Y. "Candee"

Alpha—see Johns-Manville Corp.

Appleton Rubber Co., Franklin, Mass. "O. K."

Boston Woven Hose & Rubber Co., 29 Hampshire St., Cambridge, Mass. "Sterling"

Candee—see Ackurate Rubber Co.

Canfield Rubber Co., Railroad Ave. & Garden St., Bridgeport, Conn.

Dutch Brand—see Van Cleef Bros.

Elkhart Rubber Works, Elkhart, Ind. "Hydro-Proof"

Firestone Tire & Rubber Co., 1289 S. Main St., Akron, Ohio

General Electric Co., Bridgeport, Conn.

Grimshaw—see New York Insulated Wire Co.

Holfast Rubber Co., Lakewood Ave., Atlanta, Ga.

Hydro-Proof—see Elkhart Rubber Works

Johns-Manville Corp., 292 Madison Ave., New York, N. Y. "Alpha"

Lavelle Rubber Co., 320 W. Illinois St., Chicago, Ill. "Mystic"

Mica Insulator Co., 200 Varick St., New York, N. Y. "Mico"
Cataloged on page.....155

Mico—see Mica Insulator Co.

Mystic—see Lavelle Rubber Co.

New York Insulated Wire Co., 114 Liberty St., New York, N. Y. "Grimshaw"
Cataloged on page.....26

O.K.—see Appleton Rubber Co.

Okonite Co., Canal St., Passaic, N. J.

Red X Brand—see St. Louis Rubber Cement Co.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....42

St. Louis Rubber Cement Co., 3951 Laclede Ave., St. Louis, Mo. "Red X Brand"

S I—see Superior Insulating Tape Co.

Sterling—see Boston Woven Hose & Rubber Co.

Superior Insulating Tape Co., 3100 Lambdin Ave., St. Louis, Mo., "S I"

United States Rubber Co., 1794 Broadway, New York, N. Y. "Usco"
Cataloged on page.....47

Usco—see United States Rubber Co.

Van Cleef Bros., Woodlawn Ave. & 77th St., Chicago, Ill. "Dutch Brand"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TAPE, Silk—

see **Tape,** Varnished or Oiled
also **Tape and Sleeving,** Cotton

TAPE, Varnished Cambric—

see **Tape,** Varnished or Oiled

TAPE, Varnished or Oiled

Paper, Linen, Silk, Cambric, etc., impregnated with Oil and Varnish

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Chicago Mica Co., 525 Campbell St., Valparaiso, Ind. "Micabond"

Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.

Dolph Co., John C., 168 Emmett St., Newark, N. J. "Dutchess"

Dutchess—see Dolph Co.

General Electric Co., Bridgeport, Conn.

Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J.

Linotape—see Mica Insulator Co.

Macallen Co., 25 Macallen St., Boston, Mass.
Cataloged on page 153

Mica Insulator Co., 200 Varick St., New York, N. Y. "Linotape"
Cataloged on page 155

Micabond—see Chicago Mica Co.

New Jersey Wood Finishing Co., Amboy Ave., Woodbridge, N. J.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 42

Standard Insulation Co., 74 Paterson Ave., East Rutherford, N. J.

TAPE and SLEEVING, Cotton

Braided Tape or Tubing of Cotton or Silk; for Tape and Tubing of Asbestos Fibre—see Tape and Tubing, Asbestos

Anchor Webbing Co., 300 Brook St., Pawtucket, R. I.

General Electric Co., Bridgeport, Conn.

Gilmer Co., L. H., Cottman & Keystone Sts., (Tacony) Philadelphia, Pa.

Hall & Cary Weaving & Belting Co., Lockport, N. Y.

Hope Webbing Co., Providence, R. I.

Lambeth Rope Corp., New Bedford, Mass.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

Sidebotham, Inc., John, 4317 Griscom St., (Frankford) Philadelphia, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TAPE and TUBING, Asbestos

Listings, Tape and Tubing of Asbestos; for Asbestos Yarn—see Yarn, Asbestos

American Asbestos Co., Sterigere & Stanbridge Sts., Norristown, Pa.

Armature—see Johns-Manville Corp.

General Electric Co., Bridgeport, Conn.

Johns-Manville Corp., 292 Madison Ave., New York, N. Y. "Armature" "Niagrite"

Niagrite—see Johns-Manville Corp.

Southern Asbestos Co., Charlotte, N. C.

Standard Asbestos Co., 69 Beekman St., New York, N. Y.

Superbestos Co., 1223 S. Wabash Ave., Chicago, Ill. "Supertex"

Supertex—see Superbestos Co.

United States Asbestos Co. of Illinois, Manheim, Pa.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TAPELESS CONNECTORS—

see **Connectors,** Solderless Insulated

TAPING MACHINES—

see **Machines,** Armature Winding and Taping
also **Machines,** Wire Braiding and Taping

TAPS, Cable—

see **Clamps,** Bus-Bar Test

TAPS, Current—

see **Plugs,** Multiple Tap
also **Sockets,** Multiple

TAPS, Plug—

see **Plugs,** Multiple Tap

TAPS, Table—

see **Cords,** Extension

TEA KETTLES—

see **Kettles,** Tea

TEA POTS—

see **Kettles,** Tea

TEES—

see **Fittings,** Pipe Structure

TELEPHONE RECEPTACLES—

see **Jacks,** Wall Receptacle

TELEPHONE RELAYS—

see **Relays,** Signal

TELEPHONE SWITCHES—

see **Switches,** Baby Knife

TELEPHONE WIRE—

see **Wire,** Rubber Covered and Braided

TELEPHONES, Intercommunicating

Telephone Systems designed for use in Offices, Factories, etc.; for Calling Systems—see Boards, Code Signaling

Auth Electrical Specialty Co., 422 E. 53d St., New York, N. Y.

Automatic Electric, Inc., 1033 W. Van Buren St., Chicago, Ill.

Cory & Son, Chas., 183 Varick St., New York, N. Y.

Couch Co., S. H., Arlington St., Norfolk Downs, Mass.

Deveau—see Stanley & Patterson

Dictograph Products Corp., 220 W. 42d St., New York, N. Y.

Edwards & Co., 140th & Exterior Sts., New York, N. Y.

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Western Electric Co., New York, N. Y.
Cataloged on page 87

Leich Electric Co., Genoa, Ill.

North Electric Mfg. Co., Galion, Ohio

Partrick & Wilkins Co., 51 N. Seventh St., Philadelphia, Pa.

Samson Electric Co., 227 Washington St., Canton, Mass.

Screw Machine Products Corp., 1012 Eddy St., Providence, R. I. "Select-O-Phone"

Select-O-Phone—see Screw Machine Products Corp.

Standard Electric Time Co., 89 Logan St., Springfield, Mass.
Cataloged on page 127

Stanley & Patterson, 150 Varick St., New York, N. Y. "Deveau"

Utica Fire Alarm Telegraph Co., 502 Oriskany St., W., Utica, N. Y.

Western Electric Co.—see Graybar Electric Co.

TEMPERATURE RECORDERS—

see **Thermometers,** Electric

TEMPERATURE RELAYS—

see **Regulators,** Furnace Temperature
also **Relays,** Temperature

TEMPERING BATHS—

see **Baths,** Electric Tempering

TERMINAL BLOCKS—

see **Blocks,** Terminal

TERMINAL STRIPS—

see **Strips,** Terminal

TERMINALS, Cable—

see **Lugs,** Soldering Cable
also **Potheads**

TERMINALS, Wire

Small Lugs for Connecting Wires; for Cable Lugs—see Lugs, Soldering Cable

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. "H & H"

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Breaznell, J. H., 136 Livingston St., Brooklyn, N. Y.

Dallas Brass & Copper Co., 820 Orleans St., Chicago, Ill.

Dossert & Co., 242 W. 41st St., New York, N. Y.

Eastern Specialty Co., 3551 N. Fifth St., Philadelphia, Pa. "Meliorate"

Frankel Connector Co., 179 Hudson St., New York, N. Y.

General Electric Co., 1 River Rd., Schenectady, N. Y.

General Stamping Works, 243 E. 24th St., New York, N. Y.

H & H—see Arrow-Hart & Hegeman Electric Co.

Ideal Clamp Mfg. Co., 202 Bradford St., Brooklyn, N. Y.

Ilsco—see Incandescent Light & Stove Co.

Incandescent Light & Stove Co., Madisonville Sta., Cincinnati, Ohio "Ilsco"

Kellogg Switchboard & Supply Co., 1070 W. Adams St., Chicago, Ill.

Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York, N. Y.

Lastite—see Stevens Co.

Meliorate—see Eastern Specialty Co.

Metropolitan Electric Mfg. Co., Boulevard & 14th St., Long Island City, N. Y.

Morganite Brush Co., 3320 Anable Ave., Long Island City, N. Y.

Morse Co., Frank W., 289 Congress St., Boston, Mass.

Muter Co., Leslie F., 3440 S. Chicago Ave., Chicago, Ill.

Patton-Mac Guyer Co., Baker St. & Virginia Ave., Providence, R. I.

Risdon Mfg. Co., Naugatuck, Conn.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.

Shain, Chas. D., 145 Beach, 119th St., Bell Harbor, N. Y.

Shakeproof Lock Washer Co., 2505 N. Keeler Ave., Chicago, Ill.
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Sherman Mfg. Co., H. B., 2 Barney St., Battle Creek, Mich.

Stevens Co., William, 27 Hammatt Rd., Roslindale, Mass. "Lastite"

Stromberg-Carlson Telephone Mfg. Co., 1060 University Ave., Rochester, N. Y.

Toaz Engineering & Sales Co., 11703 Robertson Ave., Cleveland, Ohio

Waterbury Button & Moulding Co., 835 S. Main St., Waterbury, Conn.
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Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Zierick Machine Works, F. R., 72 E. 131st St., New York, N. Y.

TEST BLOCKS, Meter—

see **Instruments,** Meter Testing

TEST CLIPS—

see **Clamps,** Bus-Bar Test
also **Clips,** Test

TEST TUBE HEATERS—

see **Heaters,** Test Tube

TESTERS, Armature
For Testing Armature Windings for Ground Shorts, etc.

Ankenbrandt, J. J., 2140 Wakeman St., Toledo, Ohio
Armeters—see Chapman Electrical Works
Century Electrical Co., 100 Randall Ave., Syracuse, N. Y.
Chapman Electrical Works, P. E., 1820 Chouteau Ave., St. Louis, Mo. "Armeters"
Colpin Corp., 6110 S. Main St., Los Angeles, Cal.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Miho Co., 717 Sycamore St., Cincinnati, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TESTERS, Battery—
see **Hydrometers,** Battery Testing

TESTERS, Insulation—
see **Sets,** Insulation Testing

TESTERS, Portable Battery Cell
Instruments for use in Detecting Storage Battery Faults

B & R—see Burton & Rogers Mfg. Co.
Burton & Rogers Mfg. Co., 857 Boylston St., Boston, Mass. "B & R"
Colpin Corp., 6110 S. Main St., Los Angeles, Cal.
Jaynes, R. F., 90 Lewis St., Lynn, Mass.
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.
Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.
Shire Electrical Products Co., Marquette Bldg., Detroit, Mich.
Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

TESTERS, Relay—
see **Instruments,** Meter Testing

TESTERS, Voltage—
see **Detectors,** Voltage

TESTING HYDROMETERS, Battery—
see **Hydrometers,** Battery Testing

TESTING LABORATORIES—
see **Laboratories,** Electrical Testing

TESTING SETS—
see **Sets,** Electrical Testing
also **Sets,** Insulation Testing

THEATRE FIXTURES—
see **Fixtures,** Stage Lighting
also **Fixtures,** Theatre

THERAPEUTIC CABINETS—
see **Baths,** Electric Light

THERAPEUTIC LAMPS—
see **Lamps,** Therapeutic

THERAPEUTIC OZONATORS—
see **Generators,** Therapeutic Ozone

THERMAL FLASHERS—
see **Flashers,** Thermal

THERMAL RELAYS—
see **Relays,** Temperature

THERMOCOUPLES
Thermocouple Elements for use with Pyrometers; for Pyrometer Tubes—see Tubes, Pyrometer

Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Nork—see Wilson-Maeulen Co.
Pyod—see Wilson-Maeulen Co.
Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa.
Taylor Instrument Companies, 95 Ames St., Rochester, N. Y. "Tycos"
Thwing Instrument Co., 3341 Lancaster Ave., Philadelphia, Pa.
Tycos—see Taylor Instrument Companies
Wilson-Maeulen Co., 383 Concord Ave., New York, N. Y. "Nork" "Pyod"

THERMOMETERS, Battery
Mercury Bulb Thermometers with the Temperature Scales etched on the Glass

Freas Glass Works, Francis L. Conshohocken, Pa.
Greiner Co., Emil, 55 Vandam St., New York, N. Y.
Griebel Instrument Co., 42 River St., Carbondale, Pa.
Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa. "Princo"
Princo—see Precision Thermometer & Instrument Co.
Scientific Instrument Co., 531 W. Larned St., Detroit, Mich.
Scranton Glass Instrument Co., 939 Capouse Ave., Scranton, Pa.
Taylor Instrument Companies, 95 Ames St., Rochester, N. Y. "Tycos"
Tycos—see Taylor Instrument Companies
Wagner & Son, Carl H., 1944 N. Albany Ave., Chicago, Ill.

THERMOMETERS, Electric
Instruments for Measuring Low Temperatures; for Measuring High Temperatures—see Pyrometers

American Temperature Indicating Co., 1017 Summit St., Toledo, Ohio. "Caliscope"
Bristol Co., Waterbury, Conn.
Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa.
Caliscope—see American Temperature Indicating Co.
Engelhard, Inc., Charles, 90 Chestnut St., Newark, N. J.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Moeller Instrument Co., 261 Sumpter St., Brooklyn, N. Y.
Republic Flow Meters Co., 2240 Diversey Blvd., Chicago, Ill.
Tapalog—see Wilson-Maeulen Co.
Taylor Instrument Companies, 95 Ames St., Rochester, N. Y. "Tycos"
Wilson-Maeulen Co., 383 Concord Ave., New York, N. Y. "Tapalog"

THERMOMETERS, Indicating—
see **Thermometers,** Electric

THERMOMETERS, Recording—
see **Thermometers,** Electric

THERMOSTAT SWITCHES—
see **Switches,** Thermostat Controlled

THERMOSTATIC METAL—
see **Metal,** Thermostatic

THERMOSTATIC RELAYS—
see **Relays,** Temperature

THERMOSTATS—
see **Relays,** Temperature
also **Switches,** Thermostat Controlled

THIMBLES, Guy Wire—
see **Thimbles,** Wire Rope

THIMBLES, Wire Rope
Galvanized and Black Iron Thimbles for use in Providing Increased Bearing Surface for Wire Rope Connections

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page.....20
Burndy Engineering Co., 230 E. 45th St., New York, N. Y.
Hazard Wire Rope Co., Wilkes-Barre, Pa.
Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.
Lanz Bolt Co., M., Carson & 29th Sts., Pittsburgh, Pa.
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.
Truscon Steel Co., Youngstown, Ohio
Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio

THREAD, Insulating—
see **Yarn,** Cotton or Silk

THREAD PROTECTORS—
see **Protectors,** Conduit Thread

THREADED RODS—
see **Wires,** Threaded

THREADED WIRES—
see **Wires,** Threaded

THREE WIRE GENERATORS—
see **Generators,** D. C. Three Wire

THROUGH BOLTS—
see **Bolts,** Crossarm

THUMB NUTS—
see **Nuts,** Brass Thumb and Wing
also **Nuts,** Iron Thumb and Wing

THUMB SCREWS—
see **Screws,** Brass Thumb and Wing
also **Screws,** Iron Thumb and Wing

TIE PRESSERS—
see **Pressers,** Electric Neckwear

TIME CLOCKS—
see **Clocks,** Electric Time Recording
also **Clocks,** Electric Watchman's Time
also **Switches,** Clock Controlled

TIME LIMIT RELAYS—
see **Relays,** Current Control

TIME STAMPS—
see **Stamps,** Electric Time

TIME SWITCHES—
see **Switches,** Clock Controlled
also **Switches,** Coin Operated

TIMERS—
see **Instruments,** Meter Testing
also **Relays,** Current Control
also **Switches,** Clock Controlled
also **Switches,** Coin Operated

TIN FOIL—
see **Foil,** Condenser

TINNED STEEL WIRE—
see **Wire,** Tinned Steel

TISSUE, Condenser
Tissue for use in Manufacturing Paper Condensers

Dexstar—see Dexter & Sons

Dexter & Sons, C. H., Windsor Locks, Conn. "Dexstar"

Old Masters Paper & Pulp Corp., 154 Nassau St., New York, N. Y.

Schweitzer, Inc., Peter J., 200 Fifth Ave., New York, N. Y.

Smith Paper Co., Lee, Mass.

TOASTERS, Electric Household
Open Coil Table Appliances for Toasting Bread, etc.; for Table Stoves — see Stoves, Electric Table

Armstrong Electric & Mfg. Corp., 1018 Seventh St., Huntington, W. Va., "Jack in the Box"

Beardsley & Wolcott Mfg. Co., 1359 Thomaston St., Waterbury, Conn. "Torrid"

Bersted Mfg. Co., 5201 W. 65th St., Chicago, Ill.

Betsy Ross—see Central Flatiron Mfg. Co.

Big Boy—see Gold Seal Electrical Co.

Case Electric Corp., 11th & Adams Sts., Marion, Ind. "Ev'ryday"

Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"

Chicago Electric Mfg. Co., 2835 S. Halsted St., Chicago, Ill. "Handy"

Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago, Ill. "Sunbeam"

Coolee Mfg. Co., Sandusky, Ohio "O'Kay"

Dominion Electrical Mfg. Co., 722 Ontario Ave. W., Minneapolis, Minn.

Double Action Electric Co., 30 Market St., N. W., Grand Rapids, Mich.

Dowd-Rogers Co., 95 Madison Ave., New York, N. Y.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Edicraft—see Edison, Inc.

Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"

Edison, Inc., Thomas A., Orange, N. J. "Edicraft"

Electrahot Mfg. Co., 525 S. Fourth St., Minneapolis, Minn.

Empire—see Metal Ware Corp.

Estate Stove Co., Hamilton, Ohio

Eureka Tool & Machine Co., 42 Walnut St., Newark, N. J.

Everhot—see Swartzbaugh Mfg. Co.

Ev'ryday—see Case Electric Corp.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Foldex Mfg. Corp., 1435 Franklin St., Detroit, Mich.

Gold Seal Electrical Co., 250 Park Ave., New York, N. Y. "Big Boy"

Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.

Handy—see Chicago Electric Mfg. Co.

Hotpoint—see Edison General Electric Appliance Co.

Jack in the Box—see Armstrong Electric & Mfg. Corp.

Knapp-Monarch Co., 1413 Pine St., St. Louis, Mo. "Monarch"

Kruesheld Electric & Mfg. Co., 1133 Broadway, New York, N. Y.

L & H—see Lindemann & Hoverson Co.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Thermax" "Universal"

Lindemann & Hoverson Co., A. J., 1246 Cleveland Ave., Milwaukee, Wis. "L & H"

Made-Rite Mfg. Co., Sandusky, Ohio

Manning, Bowman & Co., Meriden, Conn. "Meteor"

Marion—see Rutenber Electric Co.

Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"

Meteor—see Manning, Bowman & Co.

Metro—see Metropolitan Mfg. & Electric Co.

Metropolitan Mfg. & Electric Co., 1160 Chatham Court, Chicago, Ill. "Metro"

Monarch—see Knapp-Monarch Co.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

Northern Electric Co., 2835 N. Western Ave., Chicago, Ill.

O'Kay—see Coolee Mfg. Co.

Pan Electric Mfg. Co., 1900 Euclid Ave., Cleveland, Ohio

Pelouze Mfg. Co., 242 E. Ohio St., Chicago, Ill.

Proctor & Schwartz Electric Co., Seventh St. & Tabor Rd., Philadelphia, Pa.

Rimco Tee-Ten—see Rock Island Mfg. Co.

Risdon Mfg. Co., Naugatuck, Conn.

Robeson Rochester Corp., 176 Anderson Ave., Rochester, N. Y. "Royal Rochester"

Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill. "Rimco Tee-Ten"

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Royal Rochester—see Robeson Rochester Corp.

Russell Electric Co., 348 W. Huron St., Chicago, Ill. "Hold-Heet"

Rutenber Electric Co., Marion, Ind. "Marion"

Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

Star-Rite—see Fitzgerald Mfg. Co.

Sunbeam—see Chicago Flexible Shaft Co.

Super Lectric—see Superior Electric Products Corp.

Superior Electric Products Corp., 1310 S. 13th St., St. Louis, Mo. "Super Lectric"

Swartzbaugh Mfg. Co., 1336 Bancroft St., Toledo, Ohio "Everhot"

Thermax—see Landers, Frary & Clark

Toastmaster—see Waters Genter Co.

Toastswell—see Utility Electric Co.

Torrid—see Beardsley & Wolcott Mfg. Co.

Trimble Mfg. Co., 1243 Belmont Ave., Chicago, Ill.

Universal—see Landers, Frary & Clark

Utility Electric Co., 622 Tower Grove Ave., St. Louis, Mo. "Toastswell"

Waage, A. H., 112 Chambers St., New York, N. Y.

Waters Genter Co., 217 N. Second St., Minneapolis, Minn. "Toastmaster"

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page.....102

White Beauty Electric Co., 4424 N. Western Ave., Chicago, Ill.

White Cross—see National Stamping & Electric Works

TOGGLE BOLTS—
see **Bolts, Toggle**

TOGGLE SWITCHES—
see **Switches,** Circuit Breaker Type
also **Switches,** Flush Toggle
also **Switches,** Surface Snap

TONGS, Fuse and Wire
Tongs for use in Removing Cartridge Fuses or Gripping Wire

General Electric Co., Bridgeport, Conn.

Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.

Grinder Sales Co., 526 W. Fort St. Detroit, Mich.

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.
Cataloged on page.....139

Johnson Engineering Co., J. P., 3015 E. 61st St., Cleveland, Ohio

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

Matthews Corp., W. N., 3718 Forest Park Blvd., St. Louis, Mo.

Pringle Electrical Mfg. Co., 1912 N. Sixth St., Philadelphia, Pa.

Schmidt Electric Co., A. R., 262 E. Water St., Milwaukee, Wis.

Trico Fuse Mfg. Co., 1001 McKinley Ave., Milwaukee, Wis.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TOOL BELTS—
see **Belts,** Lineman's

TOOL HEATERS—
see **Heaters,** Test Tube
also **Heaters,** Tool

TOOL HOLSTERS—
see **Belts,** Lineman's

TOOL MARKERS—
see **Markers,** Electric Tool

TOOL RESTS—
see **Grinders,** Commutator
also **Stones,** Commutator Grinding

TOOLS, Armature Repair
For Commutator Slotters—see Slotters. Commutator; for Slotting Files—see Files, Commutator Slotting

Electric Service Supplies Co., 17th & Cambria Sts., Philadelphia, Pa. "Peerless"

Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.

Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill.

Klopp Engineering Works, 627 W. Larned St., Detroit, Mich.

Martindale Electric Co., 1271 W. Fourth St., Cleveland, Ohio

Peerless—see Electric Service Supplies Co.

TOOLS, Coil Tamping—
see **Tools,** Armature Repair

TOOLS, Commutator Grinding—
see **Grinders,** Commutator
also **Stones,** Commutator Grinding

TOOLS, Conduit Bending—
see **Benders,** Hand Conduit

TOOLS, Pruning
Pruning and Trimming Tools, mounted on long Poles

Bartlett Mfg. Co., 3003 E. Grand Blvd., Detroit, Mich.

Columbus Handle & Tool Corp., 14th St. & Big Four R.R., Columbus, Ind. "Sturd E"

Disston & Sons, Henry, (Tacony) Philadelphia, Pa.

Iler Electrical Mfg. Co., Homer City, Pa.

Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.

Leach Co., 412 S. Main St., Oshkosh, Wis. "OshKosh"

OshKosh—see Leach Co.

Smith & Sons, Seymour, Oakville, Conn.

Sturd E—see Columbus Handle & Tool Corp.

TOOLS, Tamping—
see **Bars,** Metal Tamping and Digging
also **Bars,** Wood Tamping

TOOLS, Tree Trimming—
see **Tools,** Pruning

TOOLS, Wire Splicing—
see **Clamps,** Splicing

TOOLS, Wire Stripping
For quickly Removing Insulation from Wires; for Wire Strippers—see Machines, Wire End Stripping; for Lineman's Knives—see Knives, Wire Stripping

Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
B & E—see Schollhorn Co.
Bernard—see Schollhorn Co.
Carlson Mfg. Co., C. H., 13 Main St., N. E., Minneapolis, Minn.
E-Z—see Pyramid Products Co.
Green Equipment Corp., 53 W. Jackson Blvd., Chicago, Ill.
Grinder Sales Co., 526 W. Fort St., Detroit, Mich.
Ideal Commutator Dresser Co., 1055 Park Ave., Sycamore, Ill. (Selling Agent) Cataloged on page.....139
Klopp Engineering Works, 627 W. Larned St., Detroit, Mich.
Pyramid Products Co., 2311 S. State St., Chicago, Ill. "E-Z"
Schollhorn Co., Wm., 414 Chapel St., New Haven, Conn. "B & E" "Bernard"

TORCHES, Alcohol
Wick Torches with or without Means for Holding Air under Pressure; for Blow Torches—see Torches and Furnaces, Gasoline or Kerosene Blow

Bernz Co., Otto, 17 Ashland St., Newark, N. J.,
Brach Mfg. Corp., L. S., 129 Sussex Ave., Newark, N. J.
Champion—see Lenk Mfg. Co.
Clayton & Lambert Mfg. Co., 6282 Beaubien St., Detroit, Mich.
Gaffney Co., Jas. A., 35 Warren St., New York, N. Y.
Howco Blotorch Co., 1744 S. Fourth St., Columbus, Ohio
Lasher-Weeber Co., 92 Beach St., Boston, Mass. "Supreme"
Lenk Mfg. Co., Newton Lower Falls, Mass. "Champion"
McGill Mfg. Co., Valparaiso, Ind.
Supreme—see Lasher-Weeber Co.

TORCHES, Blow—
see **Torches and Furnaces,** Gasoline or Kerosene Blow

TORCHES, Electric Paint Burning
Electrically Heated Appliances for use in Removing Paint

Johnson & Son, S. C., Racine, Wis.
Ridgely Trimmer Co., Springfield, Ohio

TORCHES and FURNACES, Gasoline or Kerosene Blow
Gasoline or Kerosene Furnaces and Torches equipped with a Pump for Generating Pressure; for Alcohol Torches—see Torches, Alcohol

Atlas Torch Mfg. Co., 1909 Irving Park Blvd., Chicago, Ill.
Bernz Co., Otto, 17 Ashland St., Newark, N. J.
Clayton & Lambert Mfg. Co., 6282 Beaubien St., Detroit, Mich.
Detroit Torch & Mfg. Co., 12057 Cardoni St., Detroit, Mich.
Dreadnaught—see Wall Mfg. Supply Co.
Klein & Sons, Mathias, 3200 Belmont Ave., Chicago, Ill.
Lasher-Weeber Co., 92 Beach St., Boston Mass. "Peerless"
Lenk Mfg. Co., Newton Lower Falls, Mass.
Peerless—see Lasher-Weeber Co.
Turner Brass Works, Sycamore, Ill.
Unique Mfg. Co., 221 W. Whiting St., Chicago, Ill.
Wall Mfg. Supply Co., P., 3166 Preble Ave., N. S., Pittsburgh, Pa. "Dreadnaught" Cataloged on page.....141

TOTALIZING METERS—
see **Meters,** Watt-Hour Service

TOY TRANSFORMERS—
see **Transformers,** Low Current and Voltage

TOYS, Electric
Electrically Operated Toys; for Three-Pound Irons—see Irons, Electric Traveler's

American Flyer Mfg. Co., 2225 S. Halsted St., Chicago, Ill.
Betsy Ross—see Central Flatiron Mfg. Co.
Central Flatiron Mfg. Co., Grand Ave., Johnson City, N. Y. "Betsy Ross"
Chloride of Silver Dry Battery Co., 515 W. Franklin St., Baltimore, Md.
Dorfan Co., 137 Jackson St., Newark, N. J.
Empire—see Metal Ware Corp.
Ives Corp., 194 Holland Ave., Bridgeport, Conn.
Kendrick & Davis Co., Lebanon, N. H.
Knapp Electric, Inc., Port Chester, N. Y.
Kokomo Stamped Metal Co., Kokomo, Ind.
Lionel Corp., 15 E. 26th St., New York, N. Y.
Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"
Rittenhouse Co., A. E., Honeoye Falls, N. Y.
United Electrical Mfg. Co., Logan St., Adrian, Mich.

TRAFFIC CONTROL RELAYS—
see **Relays,** Signal

TRAINS, Toy—
see **Toys,** Electric

TRANSFER JACKS—
see **Plugs and Receptacles,** Voltmeter

TRANSFER RELAYS—
see **Relays,** Current Control

TRANSFER SWITCHES—
see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

TRANSFERS, Decalcomania
Transfer Name Plates, Trade Marks, etc.

Art Relief—see Meyercord Co.
Du-Cal—see Meyercord Co.
Kwik-Way—see Meyercord Co.
Litchfield Corp., 25 Dey St., New York, N. Y.
Meyercord Co., 120 S. La Salle St., Chicago, Ill. "Art Relief" "Du-Cal" "Kwik-Way"
National Decalcomania Co., 240 N. 60th St., Philadelphia, Pa.
Palm Brothers Decalcomania Co. (South Norwood) Cincinnati, Ohio
Palm, Fechteler & Co., 15 E. 26th St., New York, N. Y.

TRANSFORMER OILS—
see **Oils,** Transformer and Circuit Breaker

TRANSFORMER SOCKETS—
see **Sockets,** Transformer

TRANSFORMER STEEL—
see **Steel,** Silicon Sheet

TRANSFORMERS, Audio Frequency
Covering only Companies Cataloging this Product

TCA—see Transformer Corp. of America
Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA" Cataloged on page.....177

TRANSFORMERS, Auto
Transformers having Common Primary and Secondary Windings

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
American Brown Boveri Co., Camden, N. J.
American Transformer Co., 178 Emmet St., Newark, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill.
Sorgel Electric Co., 91 W. Water St., Milwaukee, Wis.
Trester Service Electric Co., 55 E. Wells St., Milwaukee, Wis.
Uptegraff Mfg. Co., R. E., Liberty Ave. at Seventh St., Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSFORMERS, Bell Ringing—
see **Transformers,** Low Current and Voltage

TRANSFORMERS, Constant Current
Counter Weight Moving Coil Types and Insulating Transformers for Series Street Lighting Circuits

American Brown Boveri Co., Camden, N. J.
American Transformer Co., 178 Emmet St., Newark, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Kuhlman Electric Co., 26th & Jefferson Sts., Bay City, Mich.
Line Material Co., South Milwaukee, Wis.
Moloney Electric Co., 5400 N. W. Kingshighway, St. Louis, Mo.
Sorgel Electric Co., 91 W. Water St., Milwaukee, Wis.
Trester Service Electric Co., 55 E. Wells St., Milwaukee, Wis.
Uptegraff Mfg. Co., R. E., Liberty Ave. at Seventh St., Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSFORMERS, Current—
see **Transformers,** Instrument

TRANSFORMERS, High Frequency—
see **Transformers,** Testing

TRANSFORMERS, Instrument
Voltage, Current and Phasing Transformers for use when Metering on High Current Circuits

American Brown Boveri Co., Camden, N. J.
Condit Electrical Mfg. Corp., 842 Summer St., Boston, Mass.
Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.
Duncan Electric Mfg. Co., S. Third St., Lafayette, Ind.
Esterline-Angus Co., (Speedway City) Indianapolis, Ind.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Lincoln Meter Co., Springfield, Ill.
Niagara Electric Improvement Corp., 369 Lexington Ave., New York, N. Y.
Pacific Electric Mfg. Corp., (Bay View) San Francisco, Cal.
Potor—see Ward Leonard Electric Co.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.
Standard Transformer Co., Dana Ave., Warren, Ohio
States Co., 17 New Park Ave., Hartford, Conn.
Trester Service Electric Co., 55 E. Wells St., Milwaukee, Wis.
Uptegraff Mfg. Co., R. E., Liberty Ave. at Seventh St. Pittsburgh, Pa.
Wagner Electric Corp., 6400 Plymouth St., St. Louis, Mo.
Ward Leonard Electric Co., 37 South St., Mt. Vernon, N. Y. "Potor"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

TRANSFORMERS, Insulating—

see **Transformers,** Constant Current

TRANSFORMERS, Low Current and Voltage

Small Transformers for Low Voltage Supply Operated from Lighting Circuits —see also Sockets, Transformer

Adams—see Haas Electric & Mfg. Co.
Air-Way Electric Appliance Corp., 618 Broadway, Toledo, Ohio
Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
American Flyer Mfg. Co., 2225 S. Halsted St., Chicago, Ill.
Betts & Betts Corp., 645 W. 43d St., New York, N. Y.
Brach Mfg. Corp., L. S., 129 Sussex Ave., Newark, N. J.
Campbell Electric Mfg. Co., 19 Stewart St., Lynn, Mass.
Dongan Electric Mfg. Co., 3001 Franklin St., Detroit, Mich.
Edwards & Co., 140th & Exterior Sts., New York, N. Y.
Empire—see Metal Ware Corp.
Faraday—see Stanley & Patterson
Gaynor Electric Co., 1468 Stratford Ave., Bridgeport, Conn.
General Electric Co., Bridgeport, Conn. Cataloged on page 64
Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"
Haas Electric & Mfg. Co., R., 305 E. Monroe St., Springfield, Ill. "Adams"
Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill.
Kenyon Transformer Co., 124 Cypress Ave., New York, N. Y.
Killark Electric Mfg. Co., 3940 Easton Ave., St. Louis, Mo.
Magic—see Radworth Mfg. Co.
Metal Ware Corp., 111 W. Washington St., Two Rivers, Wis. "Empire"
Mohawk Electric Mfg. Co., 62 Howard St., Irvington, N. J.
Pehrson Mfg. Co., 103 Park Ave., New York, N. Y.
Polar Cub—see Gilbert Co.
Radiart Corp., 13229 Shaw Ave., Cleveland, Ohio
Radworth Mfg. Co., 302 Park Ave., Brooklyn, N. Y. "Magic"
Rittenhouse Co., A. E., Honeoye Falls, N. Y.
Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill.
Signal Electric Mfg. Co., 1915 Broadway, Menominee, Mich.
Standard Transformer Co., Dana Ave., Warren, Ohio
Stanley & Patterson, 150 Varick St., New York, N. Y. "Faraday"
Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Electric Apparatus Co., 1529 Columbus Ave., Boston, Mass.
Veco—see Viking Electric Co.
Viking Electric Co., 53 Park Pl., New York, N. Y. "Veco"
Wal Iron Electric Co., 13221 Merl Ave., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSFORMERS, Metering—

see **Transformers,** Instrument

TRANSFORMERS, Phasing—

see **Transformers,** Instrument

TRANSFORMERS, Radio Power

Covering only Companies Cataloging this Product

TCA—see Transformer Corp. of America
Transformer Corp. of America, 2319 S. Keeler Ave., Chicago, Ill. "TCA" Cataloged on page 177

TRANSFORMERS, Series—

see **Transformers,** Constant Current

TRANSFORMERS, Testing

Transformers specially Designed for Testing Purposes

Allis-Chalmers Mfg. Co., W. Allis St., Milwaukee, Wis.
American Transformer Co., 178 Emmet St., Newark, N. J.
General Electric Co., Pittsfield, Mass.
Moloney Electric Co., 5400 N. W. Kingshighway, St. Louis, Mo.
Newark Transformer Co., 17 Frelinghuysen Ave., Newark, N. J.
Roller-Smith Co., 11 Barclay St., New York, N. Y.
Standard Transformer Co., Dana Ave., Warren, Ohio
Trester Service Electric Co., 55 E. Wells St., Milwaukee, Wis.
Uptegraff Mfg. Co., R. E., Liberty Ave. at Seventh St., Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSFORMERS, Toy—

see **Transformers,** Low Current and Voltage

TRANSMISSIONS, Gear—

see **Reducers,** Speed

TRANSPOSITION BRACKETS—

see **Brackets,** Metal Insulator

TRAVELER'S IRONS—

see **Irons,** Electric Traveler's

TREAD SWITCHES, Stair—

see **Switches,** Stair Tread Controlled

TREADS, Burglar Alarm—

see **Switches,** Burglar Alarm

TREE CABLE—

see **Wire,** Tree

TREE CLIMBERS—

see **Climbers,** Wood Pole

TREE INSULATORS—

see **Insulators,** Tree

TREE TRIMMERS—

see **Tools,** Pruning

TREE WIRE—

see **Wire,** Tree

TRICKLE CHARGERS—

see **Rectifiers,** Battery Charging Bulb also **Rectifiers,** Battery Charging Electrolytic or Chemical

TRIMMERS, Tree—

see **Tools,** Pruning

TRIP RELAYS—

see **Relays,** Current Control

TROLLEY WIRE—

see **Wire,** Bare Copper or Brass

TROUBLE LAMPS—

see **Lamps,** Portable Hand

TROUGH, Wiring Duct—

see **Molding** and **Fittings,** Metal

TUBES, Candle—

see **Shells,** Candle

TUBES, Mercury Contact

Glass Tubes partially filled with Mercury and fitted with two or more Electrodes

Engineering Products Corp., 56 Amherst St., Cambridge, Mass. "Epco" "Mercuflo" Cataloged on page 75
Epco—see Engineering Products Corp.
General Electric Vapor Lamp Co., 410 Eighth St., Hoboken, N. J. "Kon-nec-tor"
Hywatt—see Time-O-Stat Controls Co.
Ionic Mercury Contact Co., 4725 Sheridan Rd., Chicago, Ill.
Kon-nec-tor—see General Electric Vapor Lamp Co.
Machlett & Son, E., 50 William St., Long Island City, N. Y. "Peak Load"
Mercoid Corp., 564 W. Adams St., Chicago, Ill.
Mercuflo—see Engineering Products Corp.
Peak Load—see Machlett & Son, E.
Time-O-Stat Controls Co., Elkhart, Ind. "Hywatt"

TUBES, Porcelain Wiring

Porcelain Tubes for use with open Wiring for Special Shapes—see Porcelain, Molders of

Circle F Mfg. Co., 720 Monmouth St., Trenton, N. J.
Illinois Electric Porcelain Co., Macomb, Ill.
Paulding, Inc., John I., (Acushnet) New Bedford, Mass.
Peach Porcelain Co., East Liverpool, Ohio
Porcelain Products, Inc., Findlay, Ohio
Thomas & Sons Co., R., Lisbon, Ohio
Trenle Porcelain Co., East Liverpool, Ohio

TUBES, Pyrometer

Refractory Tubes for Pyrometers and Tubes for Electric Induction Furnaces; for Thermocouple Elements—see Thermocouples

Alundum—see Norton Co.
Brown Instrument Co., Wayne & Windrim Aves., Philadelphia, Pa. (Sole Distributors for Champion Porcelain Co., Detroit, Mich.)
Burgess & Co., 209 W. Fourth St., East Liverpool, Ohio
Champion Porcelain Co.—see Brown Instrument Co.
Crystolon—see Norton Co.
Eitzen Co., Louis C., 280 Broadway, New York, N. Y. (Sole Distributors for Industrial Welded Products Co., Newark, N. J.) "Pynolag"
Engelhard, Inc., Chas., 90 Chestnut St., Newark, N. J.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Industrial Welded Products Co.—see Eitzen Co.

TUBES, Pyrometer (Continued)

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.

Norton Co., 1 New Bond St., Worcester. Mass. "Alundum" "Crystolon"

Pynolag—see Eitzen Co.

Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa.

TUBES, Rectifier

For Producing Direct Current for Battery Charging Bulb Rectifiers—see Rectifiers, Battery Charging Bulb

General Electric Co., 1 River Rd., Schenectady, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TUBES, Refractory—

see **Tubes,** Pyrometer

TUBES, Wire Splicing—

see **Connectors,** Solderless Uninsulated also **Sleeves,** Wire Splicing

TUBING, Aluminum—

see **Aluminum,** Sheet, Rod and Tube

TUBING, Brass or Copper

For Sheet and Rod, Brass and Copper —see Brass and Copper, Sheet and Rod

American Brass Co., Waterbury, Conn. "Anaconda" "Everdur" "Tobin"

Anaconda—see American Brass Co.

Baltimore Tube Co., Ostend & Wicomico Sts., Baltimore, Md.

Bridgeport Brass Co., E. Main St., Bridgeport, Conn.

British American Tube Co., 233 Broadway, New York, N. Y. "Bulldog"

Bulldog—see British American Tube Co.

Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.

Everdur—see American Brass Co.

Gilby Wire Co., Riverside Ave., Newark, N. J.
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Mueller Brass Co., Port Huron, Mich.

National Copper & Smelting Co., 1895 Coltman Rd., Cleveland, Ohio

Rome Brass & Copper Co., Bouck St., Rome, N. Y.

Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
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Tobin—see American Brass Co.

Walworth Co., Statler Bldg., Boston, Mass.

Wolverine Tube Co., 1451 Central Ave., Detroit, Mich.

TUBING, Copper—

see **Tubing,** Brass or Copper

TUBING, Cotton—

see **Tape and Sleeving,** Cotton

TUBING, Fibre—

see **Fibre,** Vulvanized

TUBING, Laminated—

see **Insulation,** Synthetic

TUBING, Laminated Phenolic—

see **Insulation,** Synthetic

TUBING, Magneto—

see **Tubing,** Varnished or Oiled Fabric

TUBING, Mica—

see **Mica**

TUBING, NICKEL—

see **Tubing,** Brass or Copper

TUBING, Paper

Paper Tubing suitable for Coil Forms, etc.

Climax Tube Co., Mystic, Conn.

Lowell Paper Tube Corp., Jackson Ave., Mystic, Conn.

Pairpoint Corp., Prospect St., New Bedford, Mass.

Paper Tube Corp., 1718 N. Damen Ave., Chicago, Ill. "PTC"

PTC—see Paper Tube Corp.

Stone Paper Tube Co., 30 O St., N. E., Washington, D. C.

Union Paper Co., 844 Washington St., New York, N. Y.

TUBING, Phenolic—

see **Insulation,** Synthetic

TUBING, Synthetic Insulation—

see **Insulation,** Synthetic

TUBING, Varnished or Oiled Fabric

Impregnated Varnished or Oiled Fabric Sleeving

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Bentley-Harris Mfg. Co., Elm & Ash Sts., Conshohocken, Pa.

Brand & Co., William, 268 Fourth Ave., New York, N. Y.

General Electric Co., Bridgeport, Conn.

I. C. A.—see Insuline Corp.

Insuline Corp. of America, 80 Cortlandt St., New York, N. Y. "I. C. A."

Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J. "Cellulak"

Mica Insulator Co., 200 Varick St., New York, N. Y.
Cataloged on page.....155

Varflex Corp., 403 Elm St., Rome, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TUBULAR CONNECTORS—

see **Connectors,** Solderless Uninsulated

TUMBLER SWITCHES—

see **Switches,** Flush Toggle

TUNGSTEN ALLOY—

see **Platinum**

TUNGSTEN LAMPS—

see **Lamps,** Incandescent

TURBO-FANS—

see **Blowers and Fans,** Centrifugal

TURBO-TRANSMISSIONS—

see **Reducers,** Speed

TURNBUCKLES

Galvanized Iron Turnbuckles for use in Line Construction Work

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page.....20

Burndy Engineering Co., 230 E. 45th St., New York, N. Y.

Electric Railway Equipment Co., 2918 Cormany Ave., Cincinnati, Ohio "Elreco"

Elreco—see Electric Railway Equipment Co.

Fletcher Mfg. Co., Second & Canal Sts., Dayton, Ohio

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hazard Wire Rope Co., Wilkes-Barre, Pa.

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Line Material Co., South Milwaukee, Wis.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Upson-Walton Co., 1310 W. 11th St., Cleveland, Ohio

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TURNINGS, Wood—

see **Handles,** Wooden Appliance

TURNTABLES, Electric Display

Motor Driven Revolving Display Tables

Bodine Electric Co., 2258 W. Ohio St., Chicago, Ill.

Smith, Inc., Winfield H., 15 Eaton St., Springville, N. Y.

TWINE, Armature Winding

Impregnated Twine for use in Winding Armatures

Ederer Thread Co., R. J., Unity & Elizabeth Sts., Philadelphia, Pa.

Samson Cordage Works, 88 Broad St., Boston, Mass.

Stevens Textile Co., 51 E. 42d St., New York, N. Y.

Winne Co., D. P., 76 Reade St., New York, N. Y.

TWINE, Asbestos—

see **Yarn,** Asbestos

TWINE, Jute—

see **Yarn,** Jute

TWINE, Marline

Tarred Twine for use in Lashing Cables to Messenger Wire

American Mfg. Co., Noble & West Sts., Brooklyn, N. Y.

Columbian Rope Co., 309 Genesee St., Auburn, N. Y.

TWISTED CORD—

see **Cord,** Twisted or Parallel

TWISTERS, Sleeve—

see **Clamps,** Splicing

"U" BOLTS—

see **Bolts,** "U"

UNDERCURRENT BREAKERS—

see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

UNDERCUTTERS, Commutator—

see **Slotters,** Commutator

UNDERGROUND CONDUIT—

see **Conduit,** Fibre
also **Conduit,** Rigid Steel

UNDERLOAD BREAKERS—

see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

UNDERLOAD RELAYS—

see **Relays,** Current Control

UNDERVOLTAGE BREAKERS—

see **Breakers,** Air Circuit
also **Breakers,** Oil Circuit

UNDERVOLTAGE RELAYS—

see **Relays,** Current Control

UNIONS, Conduit—

see **Fittings,** Threaded Conduit

UNIT HEATERS—
see **Heaters,** Unit Type

UNITS, Bowl Heater—
see **Elements,** Radiant Heater

UNITS, Resistance—
see **Resistors,** Unit

UNITS, Steam Radiator Heating
Electric Heating Units to be attached to Steam Radiators

Electric Steam Heater Co., 460 E. 167th St., New York, N. Y.

UNIVERSAL MOTORS—
see **Motors,** Fractional Horsepower

UNMOUNTED BELLS—
see **Bells,** Unmounted

URN HEATERS—
see **Heaters,** Urn

URNS, Coffee—
see **Percolators,** Coffee
also **Urns,** Electric Commercial Water

URNS, Electric Commercial Water
Large Electrically Heated Urns for Heating Water, Making Coffee, etc.

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.

Hot Quick—see Mabey Electric & Mfg. Co.

Mabey Electric & Mfg. Co., 968 Fort Wayne Ave., Indianapolis, Ind. "Hot Quick"

Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio

Waage, A. H., 112 Chambers St., New York, N. Y.

URNS, Tea—
see **Kettles,** Tea

VACUUM CLEANER MOTORS—
see **Motors,** Fractional Horsepower

VACUUM CLEANERS—
see **Cleaners,** Portable Vacuum

VACUUM OPERATED SWITCHES—
see **Switches,** Pressure Operated

VAPOR LAMPS, Mercury—
see **Lamps,** Mercury Vapor

VAPORIZERS, Electric
Appliances for Vaporizing in Medicated Solutions

Aerosan Co. of America, 33 Union Sq., W., New York, N. Y.

Eagle Electric Mfg. Co., 59 Hall St., Brooklyn, N. Y.

Everhot—see Swartzbaugh Mfg. Co.

Kant-Kool Electric Water Heater Co., 218 Blandina St., Utica, N. Y. "Kaz"

Kaz—see Kant-Kool Electric Water Heater Co.

Rogers Electric Laboratories, 2015 E. 65th St., Cleveland, Ohio

Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio. "Everhot"

VAPORPROOF FIXTURES—
see **Fixtures,** Vaporproof

VARIABLE SPEED MOTORS—
see **Motors,** D. C. Series

VARNISH, Acid Resisting—
see **Paint,** Acid Resisting

VARNISH, Insulating
Baking and Air Drying Insulating Varnish: for Insulating Paint—see Paint, Insulating

Ajax—see Sherwin-Williams Co.

Amdivar—see American Di-Electrics

American Di-Electrics, Ltd., 89 Hancock St., Long Island City, N. Y. "Amdivar"

Bakelite Corp., 247 Park Ave., New York, N. Y.

Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.

Benolite Varnish Co., Koppers Bldg., Pittsburgh, Pa.

Calman & Co., Emil, 42-25 Vernon Blvd., Long Island City, N. Y. "Stic-Lac"

Carboloid Products Corp., 15 Park Row, New York, N. Y.

Chinalak—see Dolph Co.

Czukor, Josef, 34 Easton Ave., New Brunswick, N. J. "Radipara"

Dielectric Mfg. Co., 224 S. Vandeventer Ave., St. Louis, Mo.

Dolph Co., John C., 168 Emmett St., Newark, N. J. "Chinalak"

Durez—see General Plastics

General Electric Co., Bridgeport, Conn.

General Plastics, Inc., Walck Rd., North Tonawanda, N. Y. "Durez"
Cataloged on page 159

George Co., P. D., 4153 Bingham St., St. Louis, Mo.

Impervious Varnish Co., 436 Seventh Ave., Pittsburgh, Pa.

Irvington Varnish & Insulator Co., 10 Argyle Terrace, Irvington, N. J.

Kay & Ess Co., Leo & Kiser Sts., Dayton, Ohio

McDougall-Butler Co., 24 Evans St., Buffalo, N. Y.

Mica Insulator Co., 200 Varick St., New York, N. Y. "Mico"
Cataloged on page 155

Mico—see Mica Insulator Co.

Mitchell-Rand Mfg. Co., 18 Vesey St., New York, N. Y.

Radipara—see Czukor, Josef

Red Triangle—see Shellac Co.

Reisenman Mfg. Co., 1018 Liberty St., Franklin, Pa.

Robertson Chemical Co., 9808 Meech Ave., Cleveland, Ohio

Ruberoid Co., 95 Madison Ave., New York, N. Y. "SPC"

SPC—see Ruberoid Co.

Shellac Co. of New York, Woolworth Bldg., New York, N. Y. "Red Triangle"

Sherwin-Williams Co., 601 Canal Rd., N. W., Cleveland, Ohio "Ajax"

Standard Insulation Co., 74 Paterson Ave., East Rutherford, N. J.

Standard Varnish Works, 443 Fourth Ave., New York, N. Y.

Sterling Varnish Co., Haysville, Pa.

Stic-Lac—see Calman & Co.

Voltax Co., 99 Reservoir Ave., Bridgeport, Conn.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

VARNISHED CAMBRIC—
see **Fabrics,** Varnished or Oiled

VARNISHED CAMBRIC TAPE—
see **Tape,** Varnished or Oiled

VARNISHED PAPER—
see **Fabrics,** Varnished or Oiled

VASE ADAPTERS—
see **Adapters,** Vase

VEGETABLE PEELERS—
see **Peelers,** Electric Vegetable

VENTILATING FANS—
see **Blowers and Fans,** Centrifugal
also **Fans,** Electric Propeller
also **Fans,** Window Ventilating

VENTILATING SETS—
see **Blowers and Fans,** Centrifugal
also **Fans,** Electric Propeller
also **Fans,** Window Ventilating

VENTILATORS, Roof
Covering only Companies Cataloging this Product

American Blower Corp., 6000 Russell St., Detroit, Mich. "Ventura"
Cataloged on page 121

Johnson Fan & Blower Co., 1319 W. Lake St., Chicago, Ill.
Cataloged on page 124

Ventura—see American Blower Corp.

VENTILATORS, Wall—
see **Fans,** Window Ventilating

VENTILATORS, Window—
see **Fans,** Window Ventilating

VIBRATING REED FREQUENCY METERS—
see **Meters,** Frequency

VIBRATING REED TACHOMETERS—
see **Tachometers,** Vibrating Reed

VIBRATOR RECTIFIERS—
see **Rectifiers,** Battery Charging Vibrator or Mechanical.

VIBRATORS, Electric Massage
Motor Operated Massage Applicator Sets

Allover Mfg. Co., 1127 Irving Pl., Racine, Wis.

Arnold Electric Co., 1220 Washington Ave., Racine, Wis.

Blud-Rub Mfg. Co., 730 E. Washington St., Indianapolis, Ind.

Chicago Motor & Vibrator Co., 200 N. Jefferson St., Chicago, Ill. "Standard"

Drake Electric Works, 3943 Lincoln Ave., Chicago, Ill.

E Z—see Earl Mfg. Co.

Earl Mfg. Co., 4332 N. Gratz St., Philadelphia, Pa. "E Z"

Eastern Laboratories, 225 E. 38th St., New York, N. Y. "Marvel"

Elco—see Lindstrom & Co.

Fitzgerald Mfg. Co., Torrington, Conn. "Star-Rite"

Geier Co., P. A., 540 E. 105th St., Cleveland, Ohio. "Royal"

Gilbert Co., A. C., 265 Peck St., New Haven, Conn. "Polar Cub"

Halliwell-Shelton Electric Corp., 113 Fourth Ave., New York, N. Y.

Hamilton Beach Mfg. Co., 1501 Rapids Dr., Racine, Wis.

Kny-Scheerer Corp. of America, 233 Spring St., New York, N. Y.

Lindstrom & Co., 2322 Indiana Ave., Chicago, Ill. "Elco"

Marvel—see Eastern Laboratories

Moore Electric Corp., 605 Washington Blvd., Chicago, Ill.

National Stamping & Electric Works, 3212 W. Lake St., Chicago, Ill. "White Cross"

VIBRATORS, Electric Massage (Continued)

Oster Mfg. Co., John, 16th & Ann Sts., Racine, Wis.
Polar Cub—see Gilbert Co.
Royal—see Geier Co.
Sanitarium Equipment Co., Washington & Champion Sts., Battle Creek, Mich.
Standard—see Chicago Motor & Vibrator Co.
Star-Rite—see Fitzgerald Mfg. Co.
Wahl Clipper Corp., Sterling, Ill.
White Cross—see National Stamping & Electric Works

VIBROMETERS—

see **Meters,** Frequency

VIOLET RAY MACHINES—

see **Generators,** Electrotherapeutic

VISE BENCHES—

see **Benches,** Portable Vise

VISES, Bench—

see **Vises,** Machinist's and Bench

VISES, Hand and Pin

For Bench or Machinist's Vises—see Vises, Machinist's and Bench

Goodell-Pratt Co., Wells St., Greenfield, Mass.
Kilborn & Bishop Co., 196 Chapel St., New Haven, Conn.
Lowell Wrench Co., 54 Commercial St., Worcester, Mass.
Millers Falls Co., Millers Falls, Mass.
Starrett Co., L. S., 165 Crescent St., Athol, Mass.

VISES, Machinist's and Bench

For Pipe Vises—see Vises, Pipe; for Hand Vises—see Vises, Hand and Pin

Athol Machine & Foundry Co., Athol, Mass.
Bel-Kel Mfg. Co., Decatur, Ill. "McCarter"
Bonney Forge & Tool Works, Allentown, Pa.
Columbian Vise & Mfg. Co., 9021 Bessemer Ave., Cleveland, Ohio
Emmert Mfg. Co., W. Main St., Waynesboro, Pa.
Ephrata Mfg. Co., Ephrata, Pa.
Erie Tool Works, 11th & French Sts., Erie, Pa.
Goodell-Pratt Co., Wells St., Greenfield, Mass.
Hollands Mfg. Co., 350 E. 18th St., Erie, Pa.
McCarter—see Bel-Kel Mfg. Co.
Oswego Tool Co., Oswego, N. Y.
Parker Co., Charles, 48 Elm St., Meriden, Conn.
Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"
Pexto—see Peck, Stow & Wilcox Co.
Prentiss Vise Co., 110 Lafayette St., New York, N. Y.
Reed Mfg. Co., Erie, Pa.
Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill.
Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.
Starrett Co., L. S., 165 Crescent St., Athol, Mass.
Walworth Co., Statler Bldg., Boston, Mass.
Western Tool & Mfg. Co., 1620 E. Pleasant St., Springfield, Ohio
Yost Mfg. Co., Meadville, Pa.

VISES, Pin—

see **Vises, Hand and Pin**

VISES, Pipe

For Machinist's Vises—see Vises, Machinist's and Bench; for Hand Vises—see Vises, Hand and Pin

American Pipe Tool Co., Harrison St. & Kolmar Ave., Chicago, Ill.
Armstrong Bros. Tool Co., 357 N. Francisco Ave., Chicago, Ill.
Armstrong Mfg. Co., Knowlton St., Bridgeport, Conn.
Athol Machine & Foundry Co., Athol, Mass.
Columbian Vise & Mfg. Co., 9021 Bessemer Ave., Cleveland, Ohio
Crown Die & Tool Co., 2644 N. Keeler Ave., Chicago, Ill.
Dandy—see Midwest Electric Co.
Enterprise—see Hinman & Co.
Erie Tool Works, 11th & French Sts., Erie, Pa.
Hinman & Co., D. A., Sandwich, Ill. "Enterprise"
Hollands Mfg. Co., 350 E. 18th St., Erie, Pa.
Jarecki Mfg. Co., E. Ninth St., Erie, Pa.
Jiffy—see Koch & Co.
Jones Tool Co., L. W., 2382 Grand Concourse, New York, N. Y.
Kling-Fast—see Walworth Co.
Koch & Co., Paul W., 19 S. Wells St., Chicago, Ill. "Jiffy"
Midwest Electric Co., 1639 Walnut St., Chicago, Ill. "Dandy"
Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.
Oster Mfg. Co., 2057 E. 61st St., Cleveland, Ohio
Parker Co., Charles, 48 Elm St., Meriden, Conn.
Prentiss Vise Co., 110 Lafayette St., New York, N. Y.
Reed Mfg. Co., Erie, Pa.
Rock Island Mfg. Co., 4140 Fullerton Ave., Chicago, Ill.
Toledo Pipe Threading Machine Co., 1425 Summit St., Toledo, Ohio
Trimo—see Trimont Mfg. Co.
Trimont Mfg. Co., 55 Amory St. (Roxbury) Boston, Mass. "Trimo"
Vulcan—see Williams & Co.
Walworth Co., Statler Bldg., Boston Mass. "Kling-Fast"
Williams & Co., J. H., 400 Vulcan St., Buffalo, N. Y. "Vulcan"
Yost Mfg. Co., Meadville, Pa.

VOLTAGE DETECTORS—

see **Detectors,** Voltage

VOLTAGE RELAYS—

see **Relays,** Current Control

VOLTAGE TESTERS—

see **Detectors,** Voltage

VOLTAGE TRANSFORMERS—

see **Transformers,** Instrument

VOLTMETER PLUGS and RECEPTACLES—

see **Plugs and Receptacles,** Voltmeter

VOLTMETERS—

see **Ammeters and Voltmeters,** Pocket
also **Ammeters and Voltmeters,** Portable
also **Ammeters and Voltmeters,** Switchboard Type

VOLTMETERS, Astatic—

see **Ammeters and Voltmeters,** Switchboard Type

WAFFLE IRONS—

see **Irons,** Waffle

WALL BRACKETS—

see **Brackets,** Metal Insulator
also **Brackets,** Wood Insulator
also **Fixtures,** Industrial Indoor
also **Fixtures,** Public Building Indoor
also **Fixtures,** Public Building Outdoor
also **Fixtures,** Residential Indoor
also **Fixtures,** Residential Outdoor

WALL FAN BOXES—

see **Boxes,** Wall Fan

WALL INSERT HEATERS—

see **Heaters,** Stationary Radiant

WALL PLATES—

see **Plates,** Flush Switch and Outlet

WARMERS, Electric Foot

Metal Foot Rests Inclosing Heating Units

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.

WARMERS, Electric Plate

Low Temperature Hot Plates or Ovens not designed for Cooking

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Duparquet, Huot & Moneuse Co., 108 W. 22d St., New York, N. Y.
Edison General Electric Appliance Co., 5600 W. Taylor St., Chicago, Ill. "Hotpoint"
Everhot—see Swartzbaugh Mfg. Co.
Hotpoint—see Edison General Electric Appliance Co.
Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"
Prometheus Electric Corp., 360 W. 13th St., New York, N. Y.
Standard Electric Stove Co., 1720 N. 12th St., Toledo, Ohio
Swartzbaugh Mfg. Co., 1336 W. Bancroft St., Toledo, Ohio "Everhot"
Universal—see Landers, Frary & Clark

WARMERS, Food—

see **Pots,** Electric Cooking

WARMERS, Milk—

see **Pots,** Electric Cooking

WASHER DRAINING PUMPS—

see **Pumps,** Clothes Washer Draining

WASHERS, Aluminum—

see **Washers,** Brass or Copper

WASHERS, Brass or Copper

For Iron or Steel Washers—see Washers, Iron or Stcel

Barnes Co., Wallace, 30 Main St., Bristol, Conn.
Barwood Mfg. Co., L. J., Stoneham, Mass.
Bridgeport Brass Co., E. Main St., Bridgeport, Conn.
Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.
Everitt Co., 264 Franklin St., Boston, Mass.
Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.
Cataloged on page.....167
Kales Stamping Co., 1661 W. Lafayette Blvd., Detroit, Mich.
Massachusetts Machine Shop, 817 Albany St., Boston, Mass.
Cataloged on page.....148
New England Screw Co., 54 Farnsworth St., Boston, Mass.
Pheoll Mfg. Co., 5700 Roosevelt Rd., Chicago, Ill.
Plume & Atwood Mfg. Co., 470 Bank St., Waterbury, Conn.
Quadriga Mfg. Co., 213 W. Grand Ave., Chicago, Ill.
Rome Brass & Copper Co., Bouck St., Rome, N. Y.

WASHERS, Copper—

see **Washers, Brass or Copper**

WASHERS, Electric Clothes

Washing Machines for Household Use

A B C—see Altorfer Bros. Co.

Air-Way Electric Appliance Corp., 618 Broadway, Toledo, Ohio

Albaugh-Dover Mfg. Co., 2100 Marshall Blvd., Chicago, Ill. "Butterfly"

Almetal Mfg. Co., 7229 Manchester Ave., St. Louis, Mo. "Pollyanna"

Altorfer Bros. Co., Peoria, Ill. "A B C"

American Beauty — see Getz Power Washer Co.

Automatic Washer Co., 163 W. Third St., Newton, Iowa "Duo-Disc"

Barlow & Seelig Mfg. Co., Ripon, Wis. "Speed Queen"

Barton Corp., West Bend, Wis.

Bee-Vac—see Birtman Electric Co.

Birtman Electric Co., 4140 Fullerton Ave., Chicago, Ill. "Bee-Vac"

Blackstone Mfg. Co., 56 Blackstone Ave., Jamestown, N. Y.

Block—see Minier Mfg. Co.

Bluffton Mfg. Co., Bluffton, Ohio

Boss Washing Machine Co., 2339 Harris Ave., Cincinnati, Ohio

Brammer Washing Machine Co., 1441 Rockingham St., Davenport, Iowa

Brush Washing Machine Co., Drey St. & Kenneth Ave., New Kensington, Pa.

Butterfly—see Albaugh-Dover Mfg. Co.

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.

Cinderella Washing Machine Co., 4301 Euclid Ave., Cleveland, Ohio

Clarinda Mfg. Co., Clarinda, Iowa. "New Clarinda" "Whirl-Vac"

Clover Leaf—see Press Co.

Coffield Washer Co., Miami Chapel Rd., Dayton, Ohio

Conlon Corp., 19th St. & 52d Ave., Cicero, Ill. "Gurgitator"

Cope-Swift Co., 247 McDougall Ave., Detroit, Mich.

Crystal Corp., 3733 Beaufait Ave., Detroit, Mich.

Dayton Washer Co., Bacon St., Dayton, Ohio "Dumore"

Decker Co., L. M., 4234 Florence Blvd., Omaha, Neb.

Delite Mfg. Co., 120 Beach St., Bryan, Ohio

Dexter Co., 408 Ninth St., Fairfield, Iowa "Speedex"

Du-All Washing Machine Co., Chamber of Commerce Bldg., Cincinnati, Ohio

Dumore—see Dayton Washer Co.

Duo-Disc—see Automatic Washer Co.

Easiest Way Mfg. Co., 1800 W. Adams St., Sandusky, Ohio

Easy—see Syracuse Washing Machine Corp.

Eclipse Machine Co., Prophetstown, Ill.

Eden Appliance Corp., 225 W. 34th St., New York, N. Y. "Edenette"

Edenette—see Eden Appliance Corp.

Faultless—see Vulcan Mfg. Co.

Federal Electric Co., 8700 S. State St., Chicago, Ill.

Fem Co., 84 Sixth St., Portland, Ore.

Freed-Eisemann Radio Corp., Liberty Ave. & Junius St., Brooklyn, N. Y. "Turbax"

Gainaday Electric Co., 3014 Liberty Ave., Pittsburgh, Pa.

Galvin Electric Mfg. Co., 3320 S. Broadway, St. Louis, Mo. "Midget"

Geier Co., P. A., 540 E. 105th St., Cleveland, Ohio "Royal"

General Utilities Mfg. Co., 4058 Beaufait Ave., Detroit, Mich "Sunnysuds"

Geneva Mfg. Co., Ste. Genevieve, Mo.

Getz Power Washer Co., 1025 Walnut St., Morton, Ill. "American Beauty"

Geyser Electric Co., 5701 N. Clark St., Chicago, Ill.

Graham—see Graroe, Inc.

Graroe, Inc., Dayton, Ohio "Graham"

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y.

Great Northern Mfg. Co., 536 Lake Shore Drive, Chicago, Ill.

Grinnell Washing Machine Co., Grinnell, Iowa

Gurgitator—see Conlon Corp.

Haag Bros. Co., 319 W. Washington St., Peoria, Ill. "Nuway" "Vortex"

Handi Appliance Corp., 33 Chandler St., Buffalo, N. Y.

Happy Day—see National Sewing Machine Co.

Hart, Wallace B., 8 E. 34th St., New York, N. Y.

Hirschy Co., 259 S. First Ave., Duluth, Minn. "Zenith"

Hoe Corp., Poughkeepsie, N. Y. "Merryway"

Horton Mfg. Co., 730 Fry St., Fort Wayne, Ind.

Hurley Machine Co., 22d St. & 54th Ave., Chicago, Ill. "Thor"

Johnson Washer Co., 40th & Adeline Sts., Oakland, Cal. "Rotarex"

Keystone Washing Machine Co., Shoemakersville, Pa.

King Washing Machine Co., Wolcott, Ind.

Klean Kwick Washer Corp., Cedar Falls, Iowa

Knoll Mfg. Co., 134 Maple St., Reading, Pa.

Landers, Frary & Clark, 47 Center St., New Britain, Conn. "Universal"

Laundryette Corp., 5100 Superior Ave., N. E., Cleveland, Ohio

Lee Suction Cleaner Corp., Ira, 2821 Brooklyn Ave., Detroit, Mich.

Majestic—see Richmond Cedar Works

Marlow Mfg. Co., 1876 E. 40th St., Cleveland, Ohio

Maytag Co., Newton, Iowa

Meadows Mfg. Co., Bloomington, Ill.

Merryway—see Hoe Corp.

Midget—see Galvin Electric Mfg. Co.

Minier Mfg. Co., foot of Sanger St., Peoria, Ill. "Block"

Modern Laundry Machine Co., 1635 Cleveland Ave., Kansas City, Mo. "Mola"

Mola—see Modern Laundry Machine Co.

National Motor Co., 15 N. Isabella St., Springfield, Ohio

National Sales & Mfg. Co., 609 Keosauqua Way, Des Moines, Iowa. "Sta-Hot"

National Sewing Machine Co., Belvidere. Ill. "Happy Day"

New Clarinda—see Clarinda Mfg. Co.

Nineteen Hundred Corp., 215 Clinton St., Binghamton, N. Y. "Whirlpool"

Nuway—see Haag Bros. Co.

Oliver Form Equipment Co., Charles City, Iowa

One Minute Mfg. Co., Newton, Iowa

Paramount Machine Co., 2484 University Ave., St. Paul, Minn.

Pella Maid—see Woodrow Washing Machine Co.

Pine-Ihrig Machine Co., Oshkosh, Wis.

Pollyanna—see Almetal Mfg. Co.

Press Co., Wells H., Streator, Ill. "Clover Leaf"

Prima Mfg. Co., Sidney, Ohio

Puffer-Hubbard Mfg. Co., 2601 32d Ave. S., Minneapolis, Minn.

Richmond Cedar Works, Fulton St., Richmond, Va. "Majestic"

Rotarex—see Johnson Washer Co.

Royal—see Geier Co.

Rue-Nelson Mfg. Co., 1153 16th Ave. S. E., Minneapolis, Minn.

Savage Arms Corp., 71 Savage Ave., Utica, N. Y.

Speedex—see Dexter Co.

Speed Queen—see Barlow & Seelig Mfg. Co.

Sta-Hot—see National Sales & Mfg. Co.

Stowit Electric Washer Co., 633 W. 44th St., New York, N. Y.

Sunbeam Electric Mfg. Co., Morgan Ave., Evansville, Ind.

Sunny Day Klothes Kleaner Corp., 3609 Gratiot Ave., Detroit, Mich.

Sunnysuds—see General Utilities Mfg. Co.

Suttle Equipment Co., 400 N. Michigan Ave., Chicago, Ill.

Swanson Household Mfg. Co., 3253 W. 30th St., Chicago, Ill.

Syracuse Washing Machine Corp., Spencer & Solar Sts., Syracuse, N. Y. "Easy"

Thor—see Hurley Machine Co.

Triplex Washing Machine Corp., 2421 N. Oakley Ave., Chicago, Ill.

Trojan Mfg. Co., 1052 W. 12th St., Erie, Pa.

Turbax—see Freed-Eisemann Radio Corp.

United Engine Co., 719 E. St. Joseph St., Lansing, Mich.

Universal—see Landers, Frary & Clark

Upton Machine Co., 1007 Edgewater St., St. Joseph, Mich.

Vac-A-Tap Co., Holland, Mich.

Vortex—see Haag Bros. Co.

Voss Bros. Mfg. Co., 1353 W. Second St., Davenport, Iowa

Vulcan Mfg. Co., 1511 Cypress St., Kansas City, Mo. "Faultless"

Whirl-Vac—see Clarinda Mfg. Co.

Whirldry Corp., 125 Munson St., New Haven, Conn.

Whirlpool—see Nineteen Hundred Corp.

Williamson Co., H. E., 425 Fourth St., San Francisco, Cal.

Woodrow Washing Machine Co., Pella, Iowa "Pella Maid"

Zenith—see Hirschy Co.

WASHERS, Electric Household Dish

Washing Machines for Household Use

Conover Co., 140 S. Dearborn St., Chicago, Ill.

Couch & Dean, 250 Park Ave., New York, N. Y.

Crescent—see Hobart Mfg. Co.

Dougherty & Sons, Wm. F., 1009 Arch St., Pittsburgh, Pa.

Friedley-Voshardt Co., 737 S. Halsted St., Chicago, Ill. "Kleen-Kwick"

Greenwood Engineering Co., 4849 Chestnut St., Philadelphia, Pa. "Whirlpool"

Hobart Mfg. Co., Pennsylvania Ave. Troy, Ohio "Crescent"

Kleen-Kwick—see Friedley-Voshardt Co.

Kohler Co., Kohler, Wis.

Planet Co., Westfield, Mass.

Sanitary Dish Washing Machine Co., 382 Tenth St., Milwaukee, Wis.

Shank Co., Cyrus, 625 W. Jackson Blvd., Chicago, Ill.

Standard Sanitary Mfg. Co., Bessemer Bldg., Pittsburgh, Pa.

Suttle Equipment Co., 400 N. Michigan Ave., Chicago, Ill.

Walker Dishwasher Corp., 246 S. Walton St., Syracuse, N. Y.

Whirlpool—see Greenwood Engineering Co.

White-Bear Corp., Illinois Bldg., Indianapolis, Ind.

WASHERS, Fibre—

see **Fibre, Vulcanized**
also **Insulation, Synthetic**

WASHERS, Iron or Steel

For Non-Ferrous Metal Washers—see Washers, Brass or Copper

Columbus Bolt Works Co., 162 Randolph St., Columbus, Ohio

Hubbard & Co., 6301 Butler St., Pittsburgh, Pa.

Kales Stamping Co., 1661 W. Lafayette Blvd., Detroit, Mich.

Lanz Bolt Co., M., 2907 E. Carson St., S. S., Pittsburgh, Pa.

Liberty Steel Wire Products Co., Johnstown, Pa.

Massachusetts Machine Shop, 817 Albany St., Boston, Mass.
Cataloged on page **148**

Milton Mfg. Co., Milton, Pa.

Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

St. Louis Malleable Casting Co., 7701 N. Conduit Ave., St. Louis, Mo.

Seyler Mfg. Co., Sharpsburg P. O., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, Ohio

Wrought Washer Mfg. Co., 54 S. Bay St., Milwaukee, Wis.

WASHERS, Lead—

see **Washers,** Brass or Copper

WASHERS, Leather

For Metal Washers—see Washers, Brass or Copper—also Washers, Iron or Steel

Alexander Bros., 18 South St., Philadelphia, Pa.

Algco—see Auburn Leather Goods Co.

American Leather Products Co., 22d & Montcalm Sts., Indianapolis, Ind.

Auburn Leather Goods Co., 32 Union Pl., Hartford, Conn. "Algco"

Barwood Mfg. Co., L. J., Stoneham, Mass.

Chicago Leather & Mercantile Co., 1421 Blue Island Ave., Chicago, Ill.

Excelsior Leather Washer Mfg. Co., Chestnut & Horsman Sts., Rockford, Ill.

Mt. Union Tanning & Extract Co., Mt. Union, Pa.

Palmer Belting Co., N., 571 Iranistan Ave., Bridgeport, Conn.

Warren Belting Co., 33 Arctic St., Worcester, Mass.

WASHERS, Lock

For Lock Nuts — see Nuts, Lock; for Iron or Steel Washers other than Lock —see Washers, Iron or Steel

American Nut & Bolt Fastener Co., 2045 Doerr St., Pittsburgh, Pa.

Everitt Co., 264 Franklin St., Boston, Mass.

Hobbs Mfg. Co., 26 Salisburg St., Worcester, Mass.

Keystone—see Positive Lock Washer Co.

Mansfield Lock Washer Co., Mansfield, Ohio

National Lock Washer Co., 40 Hermon St., Newark, N. J.

National Umbrella Frame Co., 75 Murray St., New York, N. Y. "Neverslip"

Neverslip—see National Umbrella Frame Co.

Positive Lock Washer Co., Ave. A & Miller St., Newark, N. J. "Keystone"

Quadriga Mfg. Co., 213 W. Grand Ave., Chicago, Ill.

Reliance Mfg. Co., Massillon, Ohio

Shakeproof Lock Washer Co., 2505 N. Keeler Ave., Chicago, Ill.
Cataloged on page **149**

Truscon Steel Co., Youngstown, Ohio

Washburn Co., 6126 S. La Salle St., Chicago, Ill.

WASHERS, Mica—

see **Mica**

WASHERS, Monel Metal—

see **Washers,** Brass or Copper

WASHERS, Steel—

see **Washers,** Iron or Steel

WASHING COMPOUNDS, Armature—

see **Compounds,** Armature Washing

WASHING MACHINE MOTORS—

see **Motors,** Fractional Horsepower

WASHING MACHINES—

see **Washers,** Electric Clothes

WATCHCASE BUZZERS—

see **Buzzers,** Watchcase

WATCHMAN'S TIME CLOCKS—

see **Clocks,** Electric Watchman's Time

WATER COOLERS—

see **Coolers,** Electric Water

WATER HEATERS—

see **Heaters,** Faucet Type
also **Heaters,** Water Circulation
also **Heaters,** Water Tank

WATER STILLS—

see **Stills,** Electrically Heated

WATER SUPPLY PLANTS—

see **Plants,** Electrically Operated Water Supply

WATER URNS—

see **Urns,** Electric Commercial Water

WATERPROOF FIXTURES—

see **Fixtures,** Vaporproof

WATERTIGHT OUTLET BOXES—

see **Boxes,** Watertight Outlet and Switch

WATERTIGHT PLUGS AND RECEPTACLES—

see **Plugs and Receptacles,** Watertight

WATERTIGHT SWITCHES—

see **Switches,** Watertight

WATT-HOUR METERS—

see **Meters,** Watt-Hour Service
also **Meters,** Watt-Hour Testing

WATT-HOUR TESTING METERS—

see **Meters,** Watt-Hour Testing

WATTMETERS

Instruments used for Indicating or Recording Power

Bristol Co., Waterbury, Conn.

Esterline-Angus Co., (Speedway City) Indianapolis, Ind.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio

Jewell Electrical Instrument Co., 1640 Walnut St., Chicago, Ill.

Rawson Electrical Instrument Co., 92 Windsor St., Cambridge, Mass.

Reliance Instrument Co., 1135 W. Van Buren St., Chicago, Ill.

Roller-Smith Co., 11 Barclay St., New York, N. Y.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weston Electrical Instrument Corp., 594 Frelinghuysen Ave., Newark, N. J.

WAX SEALING MACHINES—

see **Machines,** Wax Sealing

WAXING MACHINES—

see **Machines,** Floor Finishing

WEATHERPROOF BELLS—

see **Bells,** Outdoor Weatherproof

WEATHERPROOF RECEPTACLES—

see **Receptacles,** Weatherproof

WEATHERPROOF SOCKETS—

see **Sockets,** Weatherproof

WEATHERPROOF WIRE—

see **Wire,** Iron Line
also **Wire,** Weatherproof

WEDGE DRIVERS—

see **Tools,** Armature Repair

WEDGES, Armature

Wedges to hold Windings in Place in the Armature Slot

Bogert & Hopper, 225 Varick St., New York, N. Y.

National Vulcanized Fibre Co., Wilmington, Del.

Spaulding Fibre Co., 310 Wheeler St., Tonawanda, N. Y.

Stiles & Co., H. A., 166 Portland St., Boston, Mass.

White Supply Co., 4347 Duncan Ave., St. Louis, Mo.

WELDERS, Arc

Complete A.C. or D.C. Welding Equipment

Acme Electric Welder Co., 5623 Pacific Blvd., Huntington Park, Cal.

Agnew Electric Welder Co., Milford, Mich.

Ajax—see Railway Track-work Co.

Allan Mfg. & Welding Co., 726 Washington St., Buffalo, N. Y. "Almanc"

Almanc—see Allen Mfg. & Welding Co.

American Electric Fusion Corp., 2622 Diversey Ave., Chicago, Ill.

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.

Ames Co., 115 Ninth St., Brooklyn, N. Y.

Burke Electric Co., 12th & Cranberry Sts., Erie, Pa.

Dualarc — see Electric Arc Cutting & Welding Co.

Economy Electric Products Co., 2400 Woodland Ave., Cleveland, Ohio

Economy Electrical Mfg. Co., 1655 Cleveland Ave., Kansas City, Mo. "Kay-See"

Electric Arc Cutting & Welding Co., 5057 Woodward Ave., Detroit, Mich. "Dualarc"

Electric Welding Machine Co., 1530 E. Larned St., Detroit, Mich. "Weldrite"

Federal Machine & Welder Co., Dana Ave., Warren, Ohio

Fusion Welding Corp., 103d St. & Torrence Ave., Chicago, Ill. "Fuzon"

Fuzon—see Fusion Welding Corp.

General Electric Co., 1 River Rd., Schenectady, N. Y.

General Engineering & Supply Co., 160 Fifth Ave., New York, N. Y.

Gibb—see Thomson-Gibb Electric Welding Co.

Hollup Corp., C. H., 3333 W. 48th Pl., Chicago, Ill.

Kay-See—see Economy Electrical Mfg. Co.

Lincoln Electric Co., Coit Rd. & Kirby Ave., Cleveland, Ohio. "Stable-Arc"

Lunco Muniflow—see Lundy Co.

Lundy Co., A. E., Fulton Bldg., Pittsburgh, Pa. "Lunco Muniflow"

Monarch Electric Welder Co., Des Moines, Iowa

Owen Electric Mfg. Co., Fayetteville, N. C.

Railway Track-work Co., 3132 Thompson St., Philadelphia, Pa. "Ajax"

Seneca Electric Welder Corp., Maccabees Bldg., Detroit, Mich.
Stable-Arc—see Lincoln Electric Co.
Swift Electric Welder Co., 2567 W. Grand Blvd., Detroit, Mich.
Taylor-Winfield Corp., Mahoning Ave., Warren, Ohio
Thomson-Gibb Electric Welding Co., Bay City, Mich. "Gibb" "Zeus"
U S L Battery Corp., 3215 Highland Ave., Niagara Falls, N. Y.
Waters Arc Welding Corp., 619 Tenth Ave., New York, N. Y.
Weldrite—see Electric Welding Machine Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cataloged on page 97
Wilson Welder & Metals Co., Wilson Bldg., Hoboken, N. J.
Zeus—see Thomson-Gibb Electric Welding Co.

WELDERS, Butt—
see **Welders,** Arc

WELDERS, Seam—
see **Welders,** Arc

WELDERS, Spot—
see **Welders,** Arc

WELDING CABLE—
see **Cable,** Concentric

WELDING CORD—
see **Cord.** Rubber Sheathed

WELDING ELECTRODES—
see **Electrodes,** Welding

WELDING GENERATORS—
see **Generators,** D. C. Constant Current

WET BATTERIES—
see **Batteries,** Primary Wet

WHEATSTONE BRIDGES—
see **Boxes,** Standard Resistance

WHEELS, Grinding
Covering only Companies Cataloging this Product
Black & Decker Mfg. Co., 600 E. Penn Ave., Towson, Md.
Cataloged on page 136

WHIPPERS, Commercial Type—
see **Mixers and Whippers,** Commercial Type

WHIPPERS, Household Type—
see **Machines,** Kitchen Appliance Operating
also **Mixers and Whippers,** Household Type

WHISK BROOMS, Electric—
see **Cleaners,** Portable Vacuum

WICKING, Felt—
see **Felt,** Cutters of

WIND SOCK LIGHTING FIXTURES—
see **Fixtures,** Airport Lighting

WINDING MACHINES, Coil—
see **Machines,** Coil Winding

WINDINGS, Coil
Completely Wound Coils used in Transformers, Generators, etc.
Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn.
Concourse Electric Co., 296 E. 137th St., New York, N. Y.
Dudlo Mfg. Co., 1550 Wall St., Fort Wayne, Ind.
Easton Coil Co., Bushkill Drive, Easton, Pa.
Electrical Coil Winding Co., 2101 Federal St., Camden, N. J.
Elliott-Thompson Electric Co., 205 St. Clair Ave., N. E., Cleveland, Ohio
Herald Electric Co., 29 East End Ave., New York, N. Y.
Inca Mfg. Corp., New Haven Rd., Fort Wayne, Ind.
Kenyon Transformer Co., 122 Cypress Ave., New York, N. Y.
Polymet Mfg. Corp., 829 E. 134th St., New York, N. Y.
Robertson-Davis Co., 412 Orleans St., Chicago, Ill.
Rome Wire Co., Irvington, N. J.
Teleradio Engineering Corp., 484 Broome St., New York, N. Y.
Transcontinental Coil, Inc., 5 Kirk Pl., Newark, N. J.

WINDOW VENTILATORS—
see **Fans,** Window Ventilating

WING NUTS—
see **Nuts,** Brass Thumb and Wing
also **Nuts,** Iron Thumb and Wing

WING NUTS, Meter Sealing—
see **Rods and Fittings,** Meter Sealing

WING SCREWS—
see **Screws,** Brass Thumb and Wing
also **Screws,** Iron Thumb and Wing

WINKERS—
see **Flashers,** Magnetic
also **Flashers,** Motor Operated
also **Flashers,** Thermal

WIRE, Alloy Resistance—
see **Wire,** Covered Resistance

WIRE, Aluminum—
see **Aluminum,** Sheet, Rod and Tube

WIRE, Annunciator—
see **Cable,** Elevator Annunciator
also **Wire,** Cotton Covered and Paraffined

WIRE, Antenna
Covering only Companies Cataloging this Product
Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53

WIRE, Armature Banding—
see **Wire,** Tinned Steel

WIRE, Asbestos Core Resistance
Asbestos Core Wound with Resistance Wire
Gilby Wire Co., Riverside Ave., Newark, N. J.
Cataloged on page 145
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.

WIRE, Asbestos Covered
Solid or Stranded Copper Conductor, Asbestos Insulated or Rubber Insulated and Asbestos Covered; for Asbestos Covered Magnet Wire—see Wire, Asbestos Covered Magnet
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Deltabeston—see General Electric Co.
Diamond Braiding Mills, Chicago Heights, Ill.
Eagle—see Anaconda Wire & Cable Co.
General Electric Co., Bridgeport, Conn. "Deltabeston"
Cataloged on page 69
Hatfield Rubber Works, Hillside, N. J.
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

WIRE, Asbestos Covered Magnet
Solid Annealed Copper Conductor, Asbestos Covered; for Heater or Stove Wire—see Wire, Asbestos Covered
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page 12
Deltabeston—see General Electric Co.
General Electric Co., Bridgeport, Conn. "Deltabeston"
Cataloged on page 69
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 28-29

WIRE, Asbestos Insulated—
see **Wire,** Asbestos Covered

WIRE, Bare Copper or Brass
Bare Copper, Brass or Bronze Solid Conductor; for Rods—see Brass and Copper, Sheet and Rod
Amelectric—see American Electrical Works
American Brass Co., Waterbury, Conn. "Everdur" "Tobin"
American Copper Products Corp., 233 Broadway, New York, N. Y.
American Electrical Works, Phillipsdale, R. I. "Amelectric"
American Insulated Wire & Cable Corp., 954 W. 21st St., Chicago, Ill.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on pages 10-11
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Hitenso"
Baltimore Copper Smelting & Rolling Co., Fourth Ave. & Fifth St., Baltimore, Md.
Bridgeport Brass Co., E. Main St., Bridgeport, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury, Conn.
Dudlo Mfg. Co., 1550 Wall St., Fort Wayne, Ind.
Everdur—see American Brass Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Hitenso—see Anaconda Wire & Cable Co.
Hudson Wire Co., Ossining, N. Y.
Phillips Wire Co., Pawtucket, R. I.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 27-28
Rome Wire Co., Rome, N. Y.
Scovill Mfg. Co., 99 Mill St., Waterbury, Conn.
Cataloged on page 169
Southern States Cable Co., Mobile, Ala.

WIRE, Bare Copper or Brass (Continued)

Spargo Wire Co., Rome, N. Y.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.
Tobin—see American Brass Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

WIRE, Bare Resistance

Bare Wire having a high Specific Resistance; for Insulated Resistance Wire—see Wire, Covered Resistance; for Asbesto Core Heating Element Wire—see Wire, Asbestos Core Resistance

Advance—see Driver-Harris Co.
Alloy Metal Wire Co., 13th St. & Pennsylvania Ave., Moore, Pa.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Chromel—see Hoskins Mfg. Co.
Climax—see Driver-Harris Co.
Comet—see Driver-Harris Co.
Copel—see Hoskins Mfg. Co.
Driver-Harris Co., Harrison, N. J. "Advance" "Climax" "Comet" "Lucero" "Magno" "Nichrome"
Cataloged on page.....146
Gilby Wire Co., Riverside Ave., Newark, N. J.
Cataloged on pages.....144-145
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich. "Chromel" "Copel"
Lucero—see Driver-Harris Co.
Magno—see Driver-Harris Co.
National-Harris Wire Co., 195 Verona Ave., Newark, N. J.
Nichrome—see Driver-Harris Co.
Novar—see Standard Alloy Wire Co.
Seymour Mfg. Co., Seymour, Conn.
Sirian Wire & Contact Co., 255 Sherman Ave., Newark, N. J.
Standard Alloy Wire Co., Johnson Pl., Elizabeth, N. J. "Novar"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

WIRE, Bell—

see **Wire,** Cotton Covered and Paraffined

WIRE BRAIDING MACHINES—

see **Machines,** Wire Braiding and Taping

WIRE, Brass—

see **Wire,** Bare Copper or Brass

WIRE, Bronze—

see **Wire,** Bare Copper or Brass

WIRE BRUSHES—

see **Brushes,** Steel Wire

WIRE CONNECTORS—

see **Connectors,** Solderless Insulated
also **Connectors,** Solderless Uninsulated

WIRE, Copper—

see **Wire,** Bare Copper or Brass

WIRE, Copper Covered Steel

Bare Copper Covered Steel Conductor; for Copper Covered Steel Cable—see Wire, Copper Covered Steel

Copperweld Steel Co., Glassport, Pa.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

WIRE, Copper Manganese—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE, Copper Nickel—

see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE, Cotton Covered and Paraffined

Solid Copper Conductor covered with One or More Layers of Paraffined Cotton

Alpha Wire Corp., 520 Broadway, New York, N. Y.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page.....13
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"
Cataloged on page.....22
Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page.....53
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Bentley-Harris Mfg. Co., Elm & Ash Sts., Conshohocken, Pa.
Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.
Cornish Wire Co., 30 Church St., New York, N. Y. "Corwico"
Corwico—see Cornish Wire Co.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.
Davis-Jones Insulated Wire Co., Pawtucket, R. I.
Eagle—see Anaconda Wire & Cable Co.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Holyoke Co., 621 Broadway, New York, N. Y.
New England Electrical Works, Lisbon, N. H.
Paracore—see United States Rubber Co.
Providence Insulated Wire Co., 58 Waldo St., Providence, R. I.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....29
Super-Insulated Wire Co., 115 Sandwich St., Plymouth, Mass.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore" "US"

WIRE, Cotton or Silk Covered Magnet

Solid Annealed Copper Conductor, Cotton or Silk Covered; for Enameled Cotton or Silk Covered Wire—see Wire, Enameled Magnet

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn. "Cottonite" "Silkenite"
Allied Magnet Wire Corp., 243 W. Merrill St., Indianapolis, Ind.
Amelectric—see American Electrical Works
American Electrical Works, Phillipsdale, R. I. "Amelectric"
American Enameled Magnet Wire Co., Muskegon, Mich.
American Insulated Wire & Cable Corp., 954 W. 21st St., Chicago, Ill.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on pages.....11-12
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Cataloged on page.....22
Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page.....53
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Bosworth Line & Wire Co., East Homer, N. Y.
Bradford, Kyle & Co., Plymouth, Mass.
Cornish Wire Co., 30 Church St., New York, N. Y. "Corwico"
Corwico—see Cornish Wire Co.
Cottonite—see Acme Wire Co.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.
Dudlo Mfg. Co., 1550 Wall St., Fort Wayne, Ind.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Holyoke Co., 621 Broadway, New York, N. Y.
Massachusetts Electric Mfg. Co., 11 Margin St., West Lynn, Mass.
New England Electrical Works, Lisbon, N. H.
Philadelphia Insulated Wire Co., 200 N. Third St., Philadelphia, Pa.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages.....28-29
Rome Electrical Co., Rome, N. Y.
Rome Wire Co., Rome, N. Y.
Silkenite—see Acme Wire Co.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.
Sterco—see Sterling Insulated Wire Co.
Sterling Insulated Wire Co., 2061 S. Main St., Fall River, Mass. "Sterco"
Strand & Sweet Mfg. Co., Hubbard St., Winsted, Conn. "Sweetstrand"
Super-Insulated Wire Co., 115 Sandwich St., Plymouth, Mass.
Sweetstrand—see Strand & Sweet Mfg. Co.

WIRE COUPLINGS—

see **Connectors,** Solderless Insulated
also **Connectors,** Solderless Uninsulated

WIRE, Covered Resistance

Insulated Wire having a High Specific Resistance; for Bare Resistance Wire—see Wire, Bare Resistance; for Asbestos Core Heating Element Wire—see Wire, Asbestos Core Resistance

Alloy Metal Wire Co., 13th St. & Pennsylvania Ave., Moore, Pa.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Bradford, Kyle & Co., Plymouth, Mass.
Gilby Wire Co., Riverside Ave., Newark, N. J.
Cataloged on page.....145
Rockbestos Products Corp., Nicoll & Canner Sts., New Haven, Conn.
Ross Wire Co., 69 Bath St., Providence, R. I.

WIRE, Covered Stranded Enameled

Individually Enameled Copper Strands, Cotton or Silk Covered

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Bradford, Kyle & Co., Plymouth, Mass.
Cornish Wire Co., 30 Church St., New York, N. Y. "Corwico"
Corwico—see Cornish Wire Co.
Dudlo Mfg. Co., 1550 Wall St., Fort Wayne, Ind.
Enam-Wave—see Ross Wire Co.
New England Electrical Works, Lisbon, N. H.
Raco—see Ross Wire Co.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Ross Wire Co., 69 Bath St., Providence, R. I. "Enam-Wave" "Raco"
Super-Insulated Wire Co., 115 Sandwich St., Plymouth, Mass.

WIRE DRAWING MACHINES—

see **Machines,** Wire Drawing

WIRE, Enameled Magnet

Solid Annealed Copper Conductor, Enameled Bare or Enameled Cotton or Silk Covered; for Stranded Enameled Cotton or Silk Covered Wire—see Wire, Covered Stranded Enameled

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn. "Enamelite"
Amelectric—see American Electrical Works
American Electrical Works, Phillipsdale, R. I. "Amelectric"

American Enameled Magnet Wire Co., Muskegon, Mich.
American Insulated Wire & Cable Corp., 954 W. 21st St., Chicago, Ill.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on pages 11-12
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Cataloged on page 22
Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill. "Beldenamel"
Beldenamel—see Belden Mfg. Co.
Dudlo Mfg. Co., 1550 Wall St., Fort Wayne, Ind.
Enamelite—see Acme Wire Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Massachusetts Electric Mfg. Co., 11 Margin St., West Lynn, Mass.
New England Electrical Works, Lisbon, N. H.
Philadelphia Insulated Wire Co., 200 N. Third St., Philadelphia, Pa.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 28-29
Rome Electrical Co., Rome, N. Y.
Rome Wire Co., Rome, N. Y.
Strand & Sweet Mfg. Co., Hubbard St., Winsted, Conn. "Sweetstrand"
Sweetstrand—see Strand & Sweet Mfg. Co.

WIRE, Enameled Resistance—
see **Wire,** Covered Resistance

WIRE FINISHING COMPOUNDS—
see **Compounds,** Wire Finishing

WIRE, Fish
Flexible Steel Wire or Tape for use in Fishing Conduit
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Appleton Electric Co., 1747 Wellington Ave., Chicago, Ill.
Arrow Flexible Conduit Co., 300 Meserole St., Brooklyn, N. Y.
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Flaherty Co., M. E., 28 S. Clinton St., Chicago, Ill. "Mefco"
Fullman Mfg. Co., 1215 Jefferson St., Latrobe, Pa. "Keystone"
Cataloged on page 50
Keystone—see Fullman Mfg. Co.
Mefco—see Flaherty Co.
Raco—see Roach-Appleton Mfg. Co.
Rapid Spring Co., 222 Second Ave., Pittsburgh, Pa.
Rattan Mfg. Co., 552 State St., New Haven, Conn.
Roach-Appleton Mfg. Co., 3440 N. Kimball Ave., Chicago, Ill. "Raco"
Steel City Electric Co., 1207 Columbus Ave., Pittsburgh, Pa. "Superior"
Superior—see Steel City Electric Co.
Wickwire Spencer Steel Co., 41 E. 42d St., New York, N. Y.

WIRE, Fixture—
see **Wire,** Asbestos Covered
also **Wire,** Rubber Covered and Braided

WIRE, Flexible Control—
see **Cable,** Flexible Control

WIRE FORMS—
see **Forms,** Wire

WIRE, Fuse—
see **Wire and Strip,** Fuse

WIRE GAUZE BRUSHES—
see **Brushes,** Copper Leaf and Gauze

WIRE, German Silver—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE GRIPS—
see **Grips,** Cable and Wire
also **Pullers,** Fish Tape

WIRE, Heater—
see **Wire,** Asbestos Covered

WIRE, Insulated—
see **Wire,** Rubber Covered

WIRE, Insulating Machines—
see **Machines,** Wire Braiding and Taping
also **Machines,** Wire Insulating

WIRE, Iron Core—
see **Wire,** Soft Iron

WIRE, Iron Line
Insulated Iron Conductor; for Copper Covered Steel Wire—see Wire, Copper Covered Steel
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Reliance"
Cataloged on page 14
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Indiana Steel & Wire Co., Muncie, Ind.
Page Steel & Wire Co., 929 Connecticut Ave., Bridgeport, Conn.
Phillips Wire Co., Pawtucket, R. I.
Reliance—see American Steel & Wire Co.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

WIRE, Lead Sheathed
Solid Copper Conductor, Insulated and Lead Covered
Alpha Wire Corp., 520 Broadway, New York, N. Y.
Amelectric — see American Electrical Works
American Electrical Works, Phillipsdale, R. I. "Amelectric"
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore" "Amerite"
Americore—see American Steel & Wire Co.
Amerite—see American Steel & Wire Co.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Durawire" "Eagle"
Cataloged on page 22
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.
Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton N. J.
Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.
Cataloged on page 21
Durawire—see Anaconda Wire & Cable Co.
Eagle—see Anaconda Wire & Cable Co.
General Electric Co., Bridgeport, Conn.
Cataloged on page 68
Habirshaw Cable & Wire Corp., 233 Broadway, New York, N. Y.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"
Cataloged on page 24
Liberty—see National Electric Products Corp.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Liberty"
New York Insulated Wire Co., 114 Liberty St., New York, N. Y.
Cataloged on page 26
Okonite-Callender Cable Co., Paterson, N. J.
Okonite Co., Canal St., Passaic, N. J.
Paracore—see United States Rubber Co.
Paranite—see Indiana Rubber & Insulated Wire Co.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 33-36
Rome Wire Co., Rome, N. Y.
Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore" "US"
Cataloged on page 46
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

WIRE, Litz—
see **Wire,** Covered Stranded Enameled

WIRE, Locomotive Headlight—
see **Wire,** Asbestos Covered

WIRE, Magnet—
see **Wire,** Asbestos Covered Magnet
also **Wire,** Cotton or Silk Covered Magnet
also **Wire,** Enameled Magnet
also **Wire,** Paper Covered Magnet

WIRE MEASURING REELS—
see **Machines,** Wire Measuring

WIRE, Motion Picture—
see **Wire,** Asbestos Covered

WIRE, Nickel—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE, Nickel Chromium—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE, Nickel Steel—
see **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE, Paper Covered Magnet
Covering only Companies Cataloging this Product
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on pages 11-12
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 28

WIRE, Phosphor Bronze—
see **Wire,** Bare Copper or Brass

WIRE, Platinum—
see **Platinum**

WIRE POLISHING MACHINES—
see **Machines,** Wire Polishing

WIRE REELS—
see **Reels,** Wire

WIRE, Resistance—
see **Wire,** Asbestos Core Resistance
also **Wire,** Bare Resistance
also **Wire,** Covered Resistance

WIRE ROPE—
see **Rope,** Wire

WIRE ROPE CLAMPS—
see **Clamps,** Wire Rope

WIRE ROPE CLIPS—
see **Clamps,** Wire Rope

WIRE ROPE THIMBLES—
see **Thimbles,** Wire Rope

WIRE, Rubber Covered
Solid Stranded Conductor, Rubber Covered; for Rubber Covered and Braided Wire—see Wire, Rubber Covered and Braided

A-A Wire Co., 420 Lexington Ave., New York, N. Y.
Alpha Wire Corp., 520 Broadway, New York, N. Y.
American Insulated Wire Corp., 45 Baker St., Providence, R. I.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Amerite"
Amerite—see American Steel & Wire Co.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Boston Insulated Wire & Cable Co., 65 Bay St., Boston, Mass.
Eagle—see Anaconda Wire & Cable Co.
General Electric Co., 1 River Rd., Schenectady, N. Y.
Goodrich-Lenhart Mfg. Co., Hamburg, Pa.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa.
Musselman, A. J., 549 W. Washington Blvd., Chicago, Ill.
New York Insulated Wire Co., 114 Liberty St., New York, N. Y.
Cataloged on page 26
Okonite Co., Canal St., Passaic, N. J.
Packard Electric Co., 312 Dana Ave., Warren, Ohio
Paracore—see United States Rubber Co.
Parac—see Phillips Wire Co.
Phillips Wire Co., Pawtucket, R. I. "Parac"
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Rome Wire Co., Rome, N. Y.
Cataloged on pages 44-45
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J. "Sterling" "Tip-Top"
Sterling—see Standard Underground Cable Co.
Tip-Top—see Standard Underground Cable Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore"
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

WIRE, Rubber Covered and Braided
Solid, Single or Multiple Copper Conductor, Rubber Covered and Cotton Braided

Alpha Wire Corp., 520 Broadway, New York, N. Y.
Amelectric—see American Electrical Works
American Electrical Works, Phillipsdale, R. I. "Amelectric"
American Insulated Wire Corp., 45 Baker St., Providence, R. I.
American Insulated Wire & Cable Corp., 954 W. 21st St., Chicago, Ill.
American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Americore" "Amerite" "Amparak" "Reliance"
Cataloged on pages 15, 17-18
Americore—see American Steel & Wire Co.
Amerite—see American Steel & Wire Co.
Amparak—see American Steel & Wire Co.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Durawire" "Eagle"
Cataloged on page 22
Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page 53
Austin Co., M. B., 116 S. Desplaines St., Chicago, Ill.
Belden Mfg. Co., 2320-A S. Western Ave., Chicago, Ill.
Bishop Wire & Cable Corp., 430 E. 25th St., New York, N. Y.
Boston Insulated Wire & Cable Co., 65 Bay St., Boston, Mass.
Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.
Copperweld Steel Co., Glassport, Pa.
Cornish Wire Co., 30 Church St., New York, N. Y. "Corwico"
Corwico—see Cornish Wire Co.
Crescent Insulated Wire & Cable Co., Olden & Taylor Aves., Trenton, N. J.
Davis-Jones Insulated Wire Co., Pawtucket, R. I.
Detroit Insulated Wire Co., 4561 Wesson Ave., Detroit, Mich.
Cataloged on page 21
Durawire—see Anaconda Wire & Cable Co.
Eagle—see Anaconda Wire & Cable Co.
General Electric Co., Bridgeport, Conn.
Cataloged on pages 66, 68
Goodrich-Lenhart Mfg. Co., Hamburg, Pa.
Goodyear Rubber Insulating Co.—see Graybar Electric Co.
Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Whitney Blake Co., New Haven, Conn.; also for Goodyear Rubber Insulating Co., New York, N. Y.)
Grimshaw—see New York Insulated Wire Co.
Habirshaw Cable & Wire Co., 233 Broadway, New York, N. Y.
Hazard Insulated Wire Works, 81 E. Ross St., Wilkes-Barre, Pa. "Keystone"
Indiana Rubber & Insulated Wire Co., First Ave., Jonesboro, Ind. "Paranite"
Cataloged on page 24
Kerite Insulated Wire & Cable Co., 30 Church St., New York, N. Y.
Keystone—see Hazard Insulated Wire Works
Liberty—see National Electric Products Corp.
Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.
National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa. "Liberty"
New York Insulated Wire Co., 114 Liberty St., New York, N. Y. "Grimshaw"
Cataloged on page 26
O. K.—see Phillips Wire Co.
Okonite Co., Canal St., Passaic, N. J.
Packard Electric Co., 312 Dana Ave., Warren, Ohio
Parac—see Phillips Wire Co.
Paracore—see United States Rubber Co.
Paranite—see Indiana Rubber & Insulated Wire Co.
Parkerite—see Seward Wire Co.
Phillips Wire Co., Pawtucket, R. I. "Parac"
Providence Insulated Wire Co., 58 Waldo St., Providence, R. I.
Reliance—see American Steel & Wire Co.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on pages 31-32, 40-42
Rome Wire Co., Rome, N. Y.
Cataloged on page 44
Seward Wire Co., Parkersburg, W. Va. "Parkerite"
Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.
Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J. "Sterling" "Tip-Top"
Sterling—see Standard Underground Cable Co.
Tip-Top—see Standard Underground Cable Co.
Triangle Conduit Co., Dry Harbor Rd. & Cooper Ave., Brooklyn, N. Y.
US—see United States Rubber Co.
United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore" "US"
Cataloged on pages 46-47
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Whitney Blake Co.—see Graybar Electric Co.

WIRE, Rubber Covered Lead Sheathed—
see **Wire,** Lead Sheathed

WIRE, Silk Covered Magnet—
see **Wire,** Cotton or Silk Covered Magnet
also **Wire,** Enameled Magnet

WIRE, Silver—
see **Platinum**

WIRE SKINNERS—
see **Machines,** Wire End Stripping
also **Tools,** Wire Stripping

WIRE, Slow Burning—
see **Wire,** Weatherproof

WIRE, Soft Iron
High Grade Soft Wire for use in Induction Coils

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.

WIRE SOLDER—
see **Solder**

WIRE SPOOLING MACHINES—
see **Machines,** Wire Spooling

WIRE, Stove—
see **Wire,** Asbestos Covered

WIRE STRANDING MACHINES—
see **Machines,** Wire Stranding

WIRE STRIPPING KNIVES—
see **Knives,** Wire Stripping

WIRE STRIPPING MACHINES—
see **Machines,** Wire End Stripping

WIRE STRIPPING TOOLS—
see **Tools,** Wire Stripping

WIRE TAPING MACHINES—
see **Machines,** Wire Braiding and Taping

WIRE, Telephone—
see **Wire,** Rubber Covered and Braided

WIRE TERMINALS—
see **Terminals,** Wire

WIRE, Tinned Copper—
see **Wire,** Bare Copper or Brass

WIRE, Tinned Steel
Bare Tinned Steel Wire of High Tensile Strength for Armature Banding or Binding

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page 13
Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page 28
Wickwire Spencer Steel Co., 41 E. 42d St. New York, N. Y.

WIRE TONGS—
see **Tongs,** Fuse and Wire

WIRE, Transmission Ground—
see **Wire,** Copper Covered Steel

WIRE, Tree

Solid or Stranded Conductor, Rubber Covered, Protected with Weatherproof Non-Metallic Armor; for Park or Suburban Cable—see Cable, Armored Park

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill.
Cataloged on page.....19

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Duracord"

Barkhide—see Rome Wire Co.

Duracord—see Anaconda Wire & Cable Co.

Fibrex—see Simplex Wire & Cable Co.

General Electric Co., 1 River Rd., Schenectady, N. Y.

Okonite Co., Canal St., Passaic, N. J.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....40

Rome Wire Co., Rome, N. Y. "Barkhide" "Ruffcoat"

Ruffcoat—see Rome Wire Co.

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass. "Fibrex"

Standard Underground Cable Co., 26 Washington St., Perth Amboy, N. J.

WIRE, Trolley—

see **Wire,** Bare Copper or Brass

WIRE, Varnished Cambric Lead Sheathed—

see **Wire,** Lead Sheathed

WIRE, Weatherproof

Solid or Stranded Copper Conductor Covered with Two or Three Braids and Saturated with a Moistureproof Compound; for Weatherproof Iron Wire—see Wire, Iron Line

Amelectric—see American Electrical Works

American Copper Products Corp., 233 Broadway, New York, N. Y.

American Electrical Works, Phillipsdale, R. I. "Amelectric"

American Steel & Wire Co., 208 S. La Salle St., Chicago, Ill. "Reliance"
Cataloged on pages.....13-14

Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y. "Eagle"

Ansonia Electrical Co., 63 Main St., Ansonia, Conn.
Cataloged on page.....53

California Wire & Cable Co., Orange, Cal.

Collyer Insulated Wire Co., 249 N. Main St., Pawtucket, R. I.

Copperweld Steel Co., Glassport, Pa.

Eagle—see Anaconda Wire & Cable Co.

Monarch Electric & Wire Co., 622 W. Adams St., Chicago, Ill.

Nebring Electrical Works, DeKalb, Ill.

O. K.—see Phillips Wire Co.

Paracore—see United States Rubber Co.

Phillips Wire Co., Pawtucket, R. I. "O. K."

Reliance—see American Steel & Wire Co.

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....30

Rome Wire Co., Rome, N. Y.

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.

Southern States Cable Co., Mobile, Ala.

Standard Underground Cable Co., 17th & Pike Sts., Pittsburgh, Pa.

United States Rubber Co., 1794 Broadway, New York, N. Y. "Paracore" "US"
Cataloged on page.....47

US—see United States Rubber Co.

WIRE, Welding—

see **Wire and Rods,** Welding

WIRE, Winding—

see **Wire,** Asbestos Covered Magnet
also **Wire,** Cotton or Silk Covered Magnet
also **Wire,** Enameled Magnet
also **Wire,** Paper Covered Magnet

WIRE and RODS, Welding

See also Electrodes, Welding Covering only Companies Cataloging this Product

Roebling's Sons Co., John A., S. Broad & Canal Sts., Trenton, N. J.
Cataloged on page.....43

WIRE and STRIP, Fuse

Wire or Strip of Fusible Metal; for Link Fuses—see Fuses, Open Link; for Renewable Links—see Links, Renewable Fuse

Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa.

Bussmann Mfg. Co., University at Jefferson St., St. Louis, Mo.

Chase-Shawmut Co., Merrimac St., Newburyport, Mass. "Shawmut"

Diamond Electrical Mfg. Co., 1318 E. 16th St., Los Angeles, Cal.

General Electric Co., Bridgeport, Conn.

Jefferson Electric Co., 1500 S. Laflin St., Chicago, Ill. "Union"

Platt Bros. & Co., Waterbury, Conn.

Shawmut—see Chase-Shawmut Co.

Union—see Jefferson Electric Co.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

WIRES, Cabled Insulated

Several Rubber Covered and Braided Wires assembled and Covered with a Cotton or Silk Braid

Acme Wire Co., 1255 Dixwell Ave., New Haven, Conn. "Celatsite"

Celatsite—see Acme Wire Co.

Cornish Wire Co., 30 Church St., New York, N. Y. "Corwico"

Corwico—see Cornish Wire Co.

Crescent Braid, Inc., 289 Thurbers Ave., Providence, R. I. "Premier Blue Ribbon"

Graybar Electric Co., Lexington Ave. at 43d St., New York, N. Y. (Sole Distributors for Whitney Blake Co., New Haven, Conn.)

Packard Electric Co., 312 Dana Ave., Warren, Ohio

Premier Blue Ribbon—see Crescent Braid

Runzel-Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.

Whitney Blake Co.—see Graybar Electric Co.

WIRES, Threaded

For Brass Machine Screws—see Screws, Brass Machine; for Toggle Bolts—see Bolts, Toggle

Blake & Johnson Co., 1497 Thomaston Ave., Waterville, Conn.

Chicago Nut Mfg. Co., 2513 W. Cullerton St., Chicago, Ill.

Harper Co., H. M., 2626 Fletcher St., Chicago, Ill.

New England Screw Co., 54 Farnsworth St., Boston, Mass.

WIRING CHANNELS—

see **Molding,** Ornamental Metal
also **Molding and Fittings,** Metal

WIRING CLEATS—

see **Cleats,** Porcelain Wiring

WOOD, Asbestos—

see **Asbestos,** Sheet

WOOD INSULATOR PINS—

see **Pins,** Wood Insulator

WOOD MATS—

see **Mats,** Flush Switch Plate

WOOD MOLDING—

see **Molding,** Wood

WOOD MOLDING FITTINGS—

see **Fittings,** Wood Molding

WOOD PLUGS—

see **Plugs,** Conduit Sealing

WOOD POLE STEPS—

see **Brackets,** Wood Insulator

WOOD PULLEYS—

see **Pulleys,** Wood

WOOD SCREWS—

see **Screws,** Brass Wood
also **Screws,** Iron Wood

WOOD TOP PINS—

see **Pins,** Composite Wood and Metal Insulator

WOODEN HANDLES, Appliance—

see **Handles,** Wooden Appliance

WORK SHOPS—

see **Shops,** Home Work

WORM GEAR REDUCTION UNITS—

see **Reducers,** Speed

WOUND ROTOR MOTORS—

see **Motors,** A. C. Slip-Ring

WRENCHES, Adjustable Pipe—

see **Wrenches,** Pipe

WRENCHES, Pipe

Adjustable Wrenches, Stilson or Chain Types for Gripping Pipe or Conduit

Armstrong Bros. Tool Co., 357 N. Francisco Ave., Chicago, Ill.

Barcalo Mfg. Co., 225 Louisiana St., Buffalo, N. Y.

Bemis & Call Co., Springfield, Mass. "Coes"

Bonney Forge & Tool Works, Allentown, Pa.

Coes—see Bemis & Call Co.

Greenfield Tap & Die Corp., Sanderson St., Greenfield, Mass.

Herbrand Co., 109 E. State St., Fremont, Ohio

Oswego Tool Co., Oswego, N. Y.

Peck, Stow & Wilcox Co., 217 Center St., Southington, Conn. "Pexto"

Pexto—see Peck, Stow & Wilcox Co.

Stanley Rule & Level Plant, 111 Elm St., New Britain, Conn.

Trimo—see Trimont Mfg. Co.

Trimont Mfg. Co., 55 Amory St., (Roxbury) Boston, Mass. "Trimo"

Vulcan—see Williams & Co.

Walworth Co., Statler Bldg., Boston, Mass.

Williams & Co., J. H., 400 Vulcan St., Buffalo, N. Y. "Vulcan"

WRINGERS, Motor Driven Clothes

Self Contained Clothes Wringers complete with Motor, Cord, etc.

Lovell Mfg. Co., 13th & French Sts., Erie, Pa.

YARN, Asbestos

Twine, Cord and Yarn of Asbestos; for Asbestos Tape—see Tape and Tubing Asbestos

American Asbestos Co., Sterigere & Stanbridge Sts., Norristown, Pa.

Johns-Manville Corp., 292 Madison Ave., New York, N. Y.

Southern Asbestos Co., Charlotte, N. C.

Standard Asbestos Co., 69 Beekman St., New York, N. Y.

Superbestos Co., 1223 S. Wabash Ave., Chicago, Ill.

YARN, Cotton or Silk

Silk or Cotton Yarn for Insulating Wire; for Asbestos Yarn—see Yarn, Asbestos

Great Lakes Thread & Yarn Co., 5179 Wesson Ave., Detroit, Mich.

Multiple Winding Co., 38 Chauncey St., Boston, Mass.

Sauquoit Silk Mfg. Co., 4015 Cralissa St., Philadelphia, Pa.

YARN, Jute

Jute Twines, Yarns and Roving; for Marline Twine—see Twine, Marline

Chelsea Fibre Mills, 295 Fifth Ave., New York, N. Y.

Columbian Rope Co., 309 Genesee St., Auburn, N. Y.

ZINC RODS—

see Zinc, Sheet and Rod

ZINC, Sheet and Rod

Belmont Smelting & Refining Works, 330 Belmont Ave., Brooklyn, N. Y.

Horse Head—see New Jersey Zinc Co.

Matthiessen & Hegeler Zinc Co., La Salle, Ill.

New Jersey Zinc Co., 160 Front St., New York, N. Y. "Horse Head"

Platt Bros. & Co., Waterbury, Conn.

Smith & McCrorken, 67 Engert Ave., Brooklyn, N. Y.

ZINCS, Battery

Electrodes for use in Primary Wet Batteries; for Battery Coppers—see Coppers, Battery

Bryant Mfg. Co., 456 W. Ontario St., Chicago, Ill.

Edes Mfg. Co., Plymouth, Mass.

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